

DRILL PIPE

2014



Drill Pipe



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Contents

1.	Mechanical properties of drill pipe grades	2
2.	Design of a drill pipe and its dimensions	3
3.	Connections	6
4.	Connection parameters	7
5.	Drill pipe catalog	9
	60,3 mm	10
	73,0 mm	12
	88,9 mm	16
	101,6 mm	34
	114,3 mm	40
	127,0 mm	60
	139,7 mm	80
6.	Pipe durability	88
7.	Hardbanding durability	90
8.	Internal coating of pipes	92



Drill Pipe



1. Mechanical properties of drill pipe grades*

Mechanical properties of drill pipes per GOST R 54383				
GRADE	Yield point		Tensile strength	Relative elongation At gage length of 50 mm sample**
	MPa	MPa	MPa	%
	min	max	min	min
D	379	-	655	-
E	517	724	689	-
X	655	862	724	-
G	724	931	793	-
S	931	1138	1000	-

** GOST R 54383, table A7

Mechanical properties of drill pipes per API Spec 5DP Table C.5				
GRADE	Yield point		Tensile strength	Relative elongation At gage length of 2 inch sample ***
	psi	psi	psi	%
	MPa	MPa	MPa	
	min	max	min	min
E	75000	105000	100000	-
	517	724	689	-
X	95000	125000	105000	-
	655	862	724	-
G	105000	135000	115000	-
	724	931	793	-
S	135000	165000	145000	-
	931	1138	1000	-

*** calculated by formula from API Spec 5DP standard, Section 7.3.2

Mechanical properties of Tool Joint per API Spec 5DP Table C.5 and GOST R 54383				
Yield point		Tensile strength	Relative elongation	Brinnell hardness
psi	psi	psi	% min	
MPa	MPa	MPa		
min	max	min		
σ_T	σ_T	σ_B		
120000	164000	140000	13	
827	1138	965		
Mechanical properties of tool joint per GOST 27834				
MPa	MPa	MPa	% min	Brinnell hardness
min	max	min		
832	—	981	13	300–355

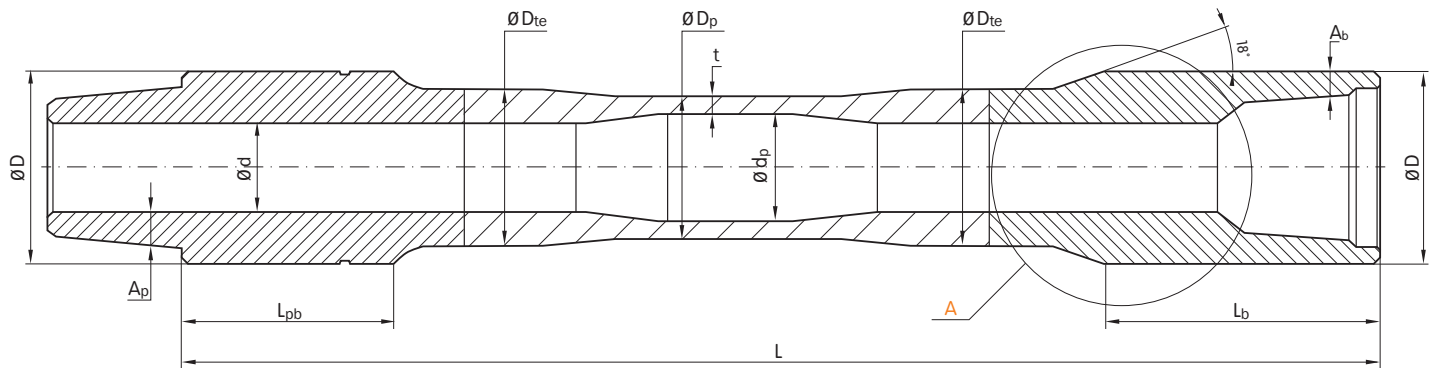
The following types of drill pipes may be produced:

- Highly durable
- Cold-resistant
- H₂S-resistant

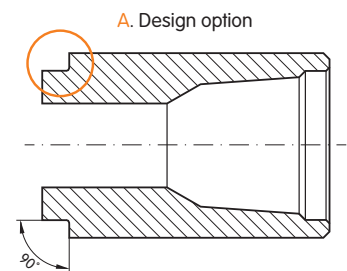
*This catalog uses terms and definitions from GOST R 54383, as well as from API Spec 5DP and API Spec 7-2 standards



2. Design of a drill pipe and its dimensions



- D_p — Pipe body OD, mm
- d_p — Pipe body ID, mm
- D_{te} — Weld connection area OD, mm
- t — Pipe body wall thickness, mm
- D — Tool Joint OD, mm
- d — Tool Joint ID, mm
- L_{pb} — length of pin-tool joint outside diameter, mm
- L_b — length of box-tool joint outside diameter, mm
- L — Drill pipe length with weld on tool joint, mm
- A_p — Cross-sectional area of the pin-tool joint, mm²
- A_b — Cross-sectional area of the box-tool joint, mm²
- 1 — Welding seam after friction welding
- 2 — Rotary Shouldered Connection



Tool joints are manufactured with either a tapered (18°) shoulder or a right angle (90°) shoulder to ensure the elevators have a secure hold on the drill string while lifting and lowering, and while making connections.



Drill pipes, manufactured to API Spec 5DP and GOST 54383 standards, can be supplied in lengths specified in the table, or custom lengths requested on the Purchase Order.

Drill pipe length, L	Range 1	Range 2	Range 3
	от 6,10 до 7,01	от 8,84 до 9,75	от 11,9 до 12,5
Limits for no less than 95% of pipes from the order*:			
Maximum variation	0,61	-	-
Minimum length	6,40	-	-
Limits for no less than 90% of pipes from the order*:			
Maximum variation	-	0,61	0,60
Minimum length	-	9,14	11,9
* Order quantity is the number of drill-pipe specified in the purchase agreement with the same item designations (Per API 5DP Table A.3 & C.3 - Drill-pipe length, L)			

Note: The drill pipe manufacturer specifies the body length of drill pipes and tool joints in such a way as to ensure the required length of readily available drill pipes.

According to API 5DP, drill pipes may be manufactured with three types of upset:

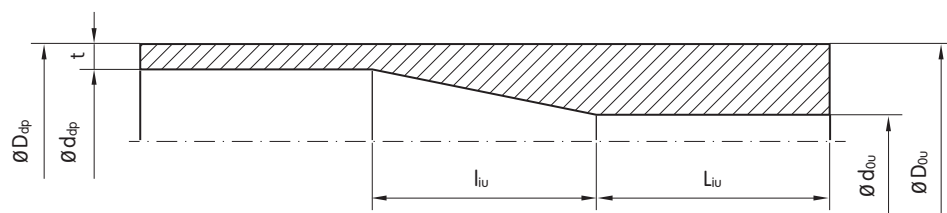
Internal Upset	IU
External Upset	EU
Internal-External Upset	IEU

**Type of upset of drill pipes
(figure on the right side of the page)**

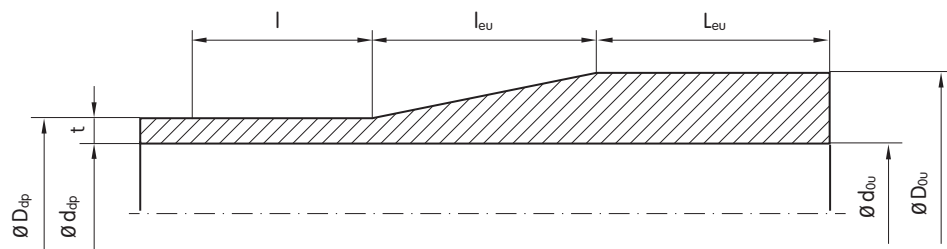
Definitions:

- D_{dp} — drill pipe body OD
- d_{dp} — drill pipe body ID
- D_{ou} — drill pipe body upset OD
- d_{ou} — drill pipe body upset ID
- L_{eu} — drill pipe body external upset length
- L_{iu} — drill pipe body internal upset length
- l_{eu} — drill pipe body external upset transition section length
- l_{iu} — drill pipe body internal upset transition section length
- l — distance beyond the transition section of the external upset, where limit deviations of the drill pipe body OD are applied



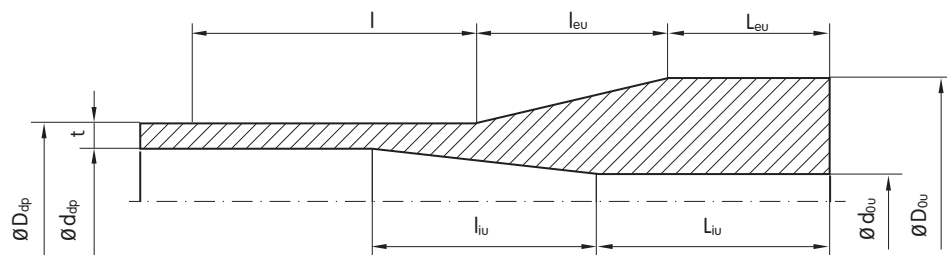


a — internal upset (IU), all grades



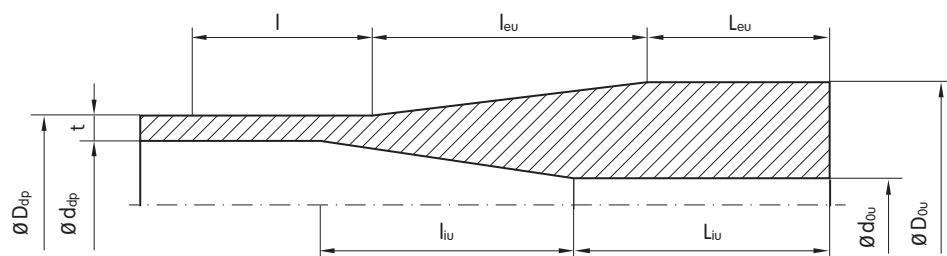
b — external upset (EU), D and E grades

(all sizes, except for drill pipe bodies with 88.90 mm OD and 9.35 mm pipe body wall thickness, which have an insignificant internal upset)



c — external upset (EU), X, G, S (all sizes) and D, E grades

(drill pipe bodies with 88.90 mm OD and 9.35 mm pipe body wall thickness)



d — Internal-external upset (IEU), all

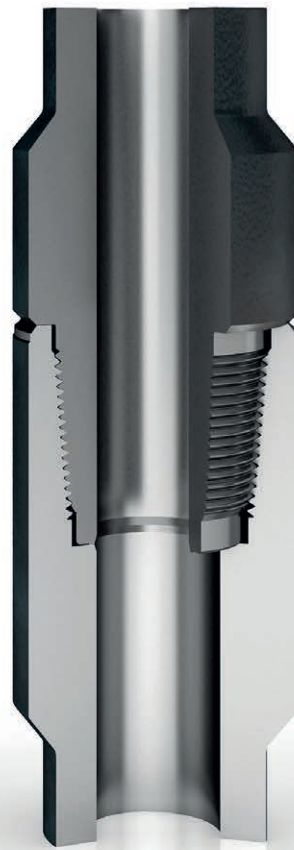


3. Connections

Rotary Shouldered Connections (per API 7-2):	
Number Connections	NC
Full Hole	FH
Tool joints manufactured to GOST 28487-90 standard	3 (65-171)
TMK Double Shouldered Tool Joint (interchangeable thread per API standard)	TMK TDSA



API standard tool joint



TMK TDS Double Shouldered Connection

TMK TDS Double Shouldered Connection are designed for construction and capital repairs of wells, complex geologic conditions, and drilling wells with high intensity of drift angle increase.

Sizes:

- The TMK TDS is available in sizes consistent with GOST R 54383 and API Spec 5DP.

Additionally, tool joints can be manufactured at an increased length to provide for multiple-repair capabilities.

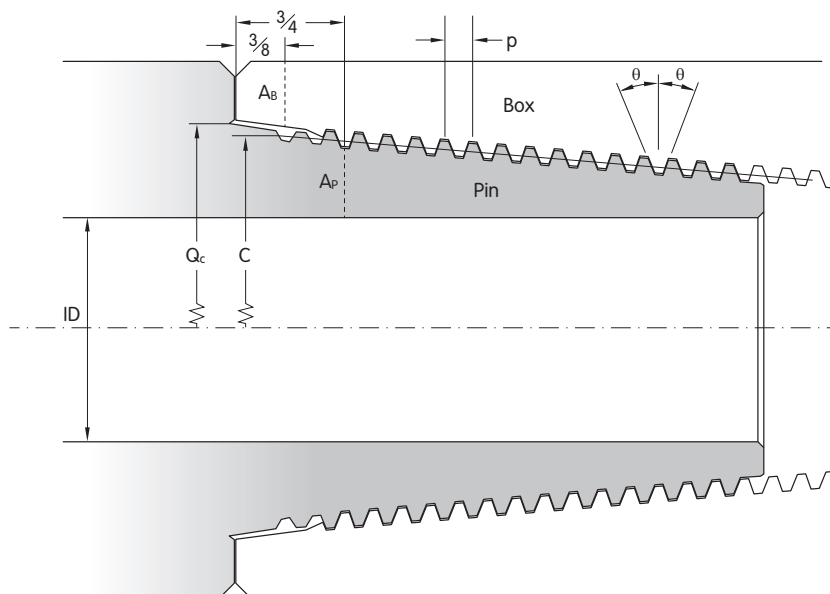
4. Connection parameters

API 7G AD1 is applied to calculate the performance properties of connections.
The threaded connection dimensions, used in calculations, are referenced below.

Threaded connection dimensions

Connection type	Thread form	Threads per 25.4 mm (1 in.)	Thread pitch	Thread Taper	Pitch diameter at gauge point	Pin length	Box Depth	Box Counterbore Diameter
			p		C	LPC	LBC	Qc
			in	in/ft	in	in	in	in
			mm	mm/mm	mm	mm	mm	mm
NC 26	V-0.038 R	4	0,25	2	2,668	3	3,625	2,9375
			6,35	1:6	67,767	76,2	92,1	74,6
NC 31	V-0.038 R	4	0,25	2	3,183	3 1/2	4,125	3,45313
			6,35	1:6	80,848	88,9	104,8	87,7
NC38	V-0.038 R	4	0,25	2	3,808	4	4,625	4,0781
			6,35	1:6	96,723	101,6	117,5	103,6
NC 40	V-0.038 R	4	0,25	2	4,072	4 1/2	5,125	4,3438
			6,35	1:6	103,429	114,3	130,2	110,3
NC 46	V-0.038 R	4	0,25	2	4,626	4 1/2	5,125	4,9063
			6,35	1:6	117,5	114,3	130,2	124,6
NC 50	V-0.038 R	4	0,25	2	5,0417	4 1/2	5,125	5,3125
			6,35	1:6	128,059	114,3	130,2	134,9
5 1/2 FH	V-0.050 R	4	0,25	2	5,591	5	5,625	5,9063
			6,35	1:6	142,011	127,0	142,9	150,0

When calculating the threaded connection torque, the friction coefficient value along the thread and stop ends shall be equal to 0.08

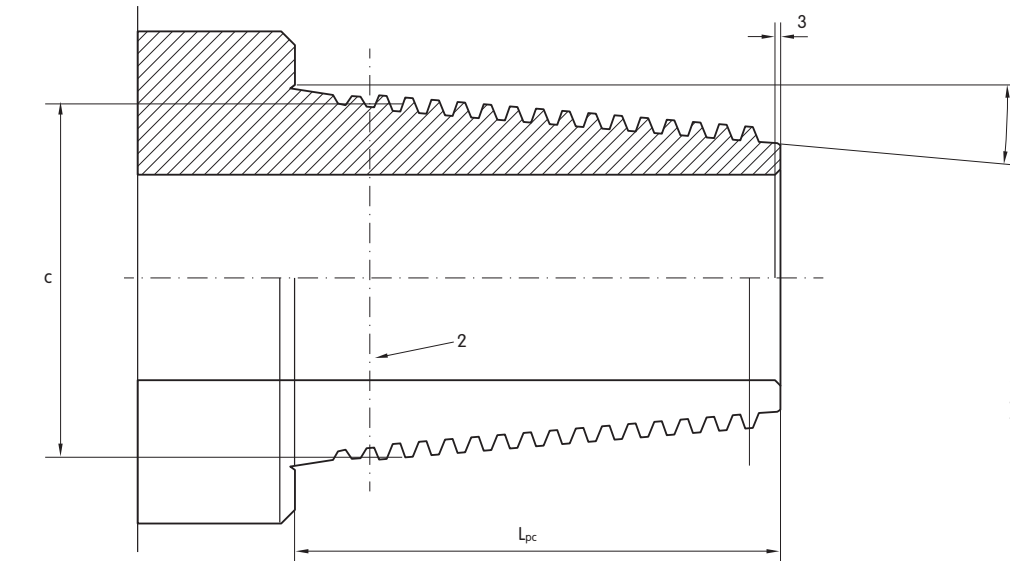


Threaded connection assembly

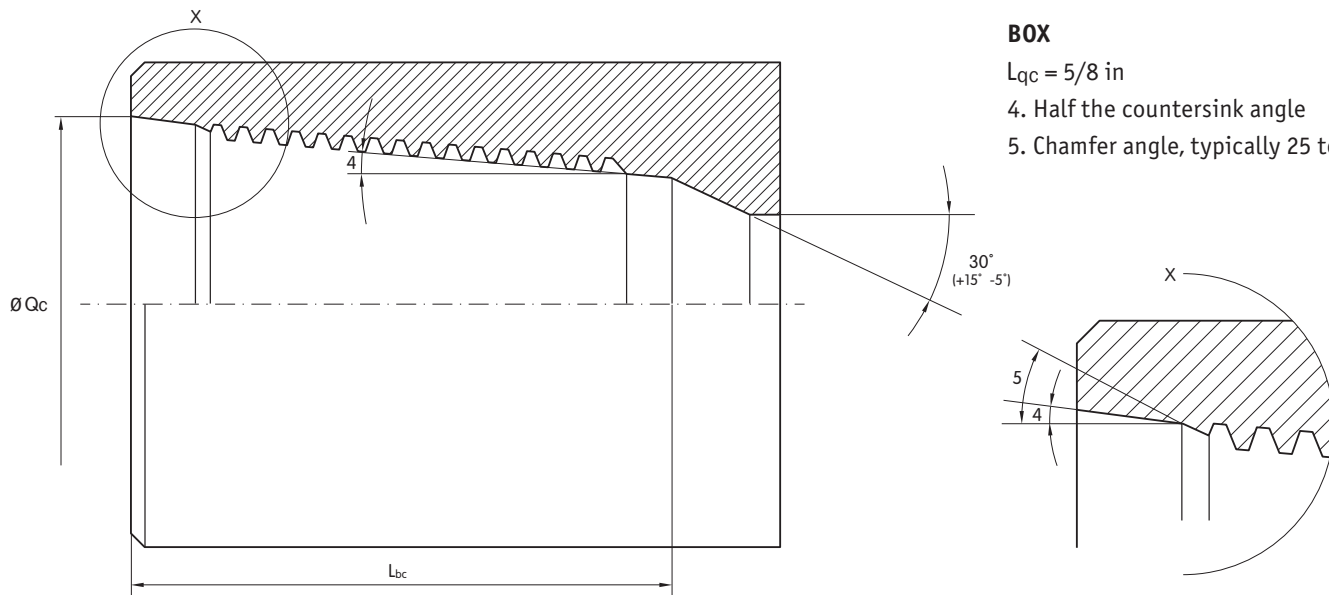
A_p — critical section of the pin, shall be 3/4" from the shoulder; mm²

A_b — critical section of the box, shall be 3/8" from the shoulder; mm²



**PIN**

1. Half the countersink angle
2. Basic plane
3. Internal chamfer (In accordance with ISO 11961 or with a product standard)

**BOX**

$L_{qc} = 5/8$ in

4. Half the countersink angle
5. Chamfer angle, typically 25 to 45°

Most tool joints manufactured with thread per GOST 28487-90, are interchangeable with connections which have threads per API Spec 7-2, and have the same performance properties during the calculations in accordance with API RP 7G AD1.

The interchangeability of connections, utilized for JSC BSCO drill pipes, is referenced in the table:

Interchangeability of connections with compatible components					
Type thread	Thread pitch, mm	Taper	Similar thread per API Spec 7	Thread form per GOST	Thread form per API Spec 7
3-73	6,35	1:6	NC26	4	V-0,038R
3-86	6,35	1:6	NC31	4	V-0,038R
3-102	6,35	1:6	NC38	4	V-0,038R
3-108	6,35	1:6	NC40	4	V-0,038R
3-122	6,35	1:6	NC46	4	V-0,038R
3-133	6,35	1:6	NC50	4	V-0,038R
3-147	6,35	1:6	5 1/2 FH	3	V-0,050

5. Drill pipe catalog

Drill pipe manufacturers — JSC SinTZ and JSC TAGMET

JSC TMK drill pipes comply with the following requirements:

- API Spec 5DP
- API Spec 7-2
- API 7G recommendations
- GOST R 54383
- TU 14-157-107-2009
- TU 14-161-235-2009
- Any additional requirements specified by the customer

Assortment of manufactured pipes

Regulatory document	Grade	OD, mm	Type of upset pipes	Wall thickness, mm
GOST R 54383	D, E, X, G, S	от 60,3 до 139,7	EU, IU, IEU	от 7,11 до 12,7
API Spec 5DP	E, X, G, S			
EU — external upset pipe IU — internal upset pipe IEU — internal-external upset pipe				

This catalog contains the following JSC TMK drill pipes:

- with Weld-on Type Tool Joints, recommended by API RP 7G standards (distinguished by color);
- alternative drill pipes — with welded tool joints of nonstandard assortment per API 5DP;
- drill pipes with tool joints which comply with requirements of other standards (GOST 54383, TU);
- drill pipes with TMK TDS high torque double shoulder tool joints, manufactured by JSC Orsky Mashinostroitelny Zavod.

* Welded tool joints, recommended by API RP 7G standards, which ensure that the durability coefficient of the drill pipe during torque is 0.8 or higher. The drill pipe durability is calculated by the ratio of maximum allowed torque of the tool joint to the maximum allowed torque of the drill pipe body.



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
60,3	7,11	46,08	9,91	1188	D	EU	78,8	78,2	450	6204
					E	EU	107,5	106,7	614	8463
					X	EU	136,2	135,2	778	10722
					G	EU	150,6	149,4	860	11851
					S	EU	193,4	191,9	1104	15223

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 26	85,7	44,45	65,1	177,8	203,2	1633	1585	1393	5530	9220	10,16	1,49	1,664	2,993
BSCO TDS 86-44	85,7	44,45	65,1	180,6	204,2	1633	1585	1393	7000	11700	10,2	1,89	1,664	2,993
NC 26	85,7	44,45	65,1	177,8	203,2	1633	1585	1395	5530	9220	10,16	1,09	1,664	2,993
BSCO TDSA 86-44	85,7	44,45	65,09	180,6	204,2	1633	1585	1393	7000	11700	10,2	1,38	1,664	2,993
NC 26	85,7	44,45	65,1	177,8	203,2	1633	1585	1395	5530	9220	10,26	0,86	1,664	2,993
BSCO TDSA 86-44	85,7	44,45	65,09	180,6	204,2	1633	1585	1393	7000	11700	10,23	1,09	1,664	2,993
NC 26	85,7	44,45	65,1	177,8	203,2	1633	1585	1395	5530	9220	10,26	0,78	1,664	2,993
BSCO TDSA 86-44	85,7	44,45	65,09	180,6	204,2	1633	1585	1393	7000	11700	10,23	0,99	1,664	2,993
NC 26	85,7	44,45	65,1	177,8	203,2	1633	1585	1393	5530	9220	10,26	0,61	1,664	2,993
BSCO TDSA 86-44	85,7	44,45	65,09	180,6	204,2	1633	1585	1393	7000	11700	10,23	0,77	1,664	2,993

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Mкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
73,0	9,19	54,6	15,4	18,44	D	IU	83,4	83,5	698	11468
					D	EU	83,4	83,5	698	11468
					E	EU	113,8	113,9	953	15644
						IU	113,8	113,9	953	15644

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
BSCO TDS 92-34	92,0	34,0	76,2	177,8	203,2	2279	2456	1885	11400	19000	15,76	1,66	2,24	4,24
BSCO TDS 95-32	95,2	31,8	76,2	177,8	203,2	2390	2930	2020	12200	20300	15,91	1,77	2,25	4,28
NC 31	104,8	54,0	81,0	177,8	228,6	2340	2798	1988	9660	16095	15,77	1,40	2,34	4,42
NC 31	104,8	50,8	81,0	177,8	228,6	2601	2798	2205	10735	17892	15,85	1,56	2,32	4,42
NC 31	111,1	41,3	81,0	177,8	228,6	3290	3875	2775	13785	22975	16,36	2,00	2,29	4,51
BSCO TDSA 105-54	104,8	54,0	80,96	180,6	229,6	2340	2798	1988	12200	20300	15,86	1,77	2,34	4,42
BSCO TDSA 105-51	104,8	50,8	80,96	180,6	229,6	2601	2798	2205	14100	23500	15,86	2,05	2,32	4,42
NC 31	104,8	54,0	81,0	177,8	228,6	2340	2798	1988	9660	16095	15,77	1,03	2,34	4,42
NC 31	104,8	50,8	81,0	177,8	228,6	2601	2798	2205	10735	17892	15,85	1,14	2,32	4,42
NC 31	111,1	41,3	81,0	177,8	228,6	3290	3875	2775	13785	22975	16,36	1,47	2,29	4,51
BSCO TDSA 105-54	104,8	54,0	80,96	180,6	229,6	2340	2798	1988	12200	20300	15,86	1,30	2,34	4,42
BSCO TDSA 105-51	104,8	50,8	80,96	180,6	229,6	2601	2798	2205	14100	23500	15,86	1,50	2,32	4,42
BSCO TDS 92-34	92,0	34,0	76,2	177,8	203,2	2279	2456	1885	11400	19000	15,76	1,21	2,24	4,24
BSCO TDS 95-32	95,2	31,8	76,2	177,8	203,2	2390	2930	2020	12200	20300	15,91	1,30	2,25	4,28

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
73,0	9,19	54,6	15,4	18,44	X	EU	144,2	144,3	1208	19820
						IU	144,2	144,3	1208	19820
					G	EU	159,3	159,5	1335	21908
					S	EU	204,7	205,1	1712	28140

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 31	104,8	50,8	81,0	177,8	228,6	2601	2798	2205	10735	17892	15,98	0,90	2,32	4,42
NC 31	104,8	54,0	81,0	177,8	228,6	2340	2798	1988	9660	16095	15,84	0,81	2,34	4,42
NC 31	111,1	41,3	81,0	177,8	228,6	3290	3875	2775	13785	22975	16,36	1,16	2,29	4,51
BSCO TDSA 105-54	104,8	54,0	80,96	180,6	229,6	2340	2798	1988	12200	20300	16,03	1,02	2,34	4,42
BSCO TDSA 105-51	104,8	50,8	80,96	180,6	229,6	2340	2798	2205	14100	23500	15,94	1,19	2,32	4,42
BSCO TDS 92-34	92,0	34,0	76,2	177,8	203,2	2279	2456	1885	11400	19000	15,76	0,96	2,24	4,24
BSCO TDS 95-32	95,2	31,8	76,2	177,8	203,2	2390	2930	2020	12200	20300	15,91	1,02	2,25	4,28
NC 31	104,8	50,8	81,0	177,8	228,6	2601	2798	2205	10735	17892	15,98	0,82	2,32	4,42
NC 31	104,8	54,0	81,0	177,8	228,6	2340	2798	1988	9660	16095	15,91	0,73	2,34	4,42
NC 31	111,1	41,3	81,0	177,8	228,6	3290	3875	2775	13785	22975	16,5	1,05	2,29	4,51
BSCO TDSA 105-54	104,8	54,0	80,96	180,6	229,6	2340	2798	1988	12200	20300	16,03	0,93	2,34	4,42
BSCO TDSA 105-51	104,8	50,8	80,96	180,6	229,6	2340	2798	2205	14100	23500	15,94	1,07	2,32	4,42
NC 31	111,1	41,3	81,0	177,8	228,6	3290	3875	2775	13785	22975	16,5	0,82	2,29	4,51
NC 31	104,8	50,8	81,0	177,8	228,6	2601	2798	2205	10735	17892	15,98	0,64	2,32	4,42
NC 31	104,8	54,0	81,0	177,8	228,6	2340	2798	1988	9660	16095	15,91	0,57	2,34	4,42
BSCO TDSA 105-54	104,8	54,0	80,96	180,6	229,6	2340	2798	1988	12200	20300	16,03	0,72	2,34	4,42
BSCO TDSA 105-51	104,8	50,8	80,96	180,6	229,6	2340	2798	2205	14100	23500	15,94	0,84	2,32	4,42

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
88,9	6,45	76,0	14,2	1671	D	EU	47,2	48,1	633	14060
					E	EU	68,9	65,6	863	19180
	9,35	70,2	19,8	2336	D	EU	71,3	69,8	885	18438
						IU	71,3	69,8	885	18438

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 38	120,7	76,2	98,4	203,2	266,7	2180	3259	1867	10423	17372	14,82	1,24	4,45	6,52
NC 38	120,7	68,3	98,4	203,2	266,7	3080	3259	2612	14730	24550	15,1	1,75	4,45	6,52
NC 38	120,7	76,2	98,4	203,2	266,7	2180	3259	1867	10423	17372	14,82	0,91	4,54	6,52
NC 38	120,7	68,3	98,4	203,2	266,7	3080	3259	2612	14730	24550	15,1	1,28	4,45	6,52
NC 38	120,7	68,3	98,4	203,2	266,7	3080	3259	2612	14730	24550	20,16	1,33	3,85	6,52
NC 38	120,7	76,2	98,4	203,2	266,7	2180	3259	1867	10423	17372	19,87	0,94	4,54	6,52
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	20,27	1,41	3,82	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	20,37	1,41	3,79	6,52
NC 38	127,0	65,1	98,4	203,2	266,7	3413	4494	2888	16535	27559	20,68	1,49	3,82	6,59
NC 38	127,0	61,9	98,4	203,2	266,7	3729	4494	3150	18070	30116	20,78	1,63	3,79	6,59
NC 38	127,0	53,98	98,4	203,2	266,7	4452	4494	3747	21570	35950	21,02	1,95	3,73	6,59
NC 40	133,4	68,3	98,4	177,8	254	4091	4684	3454	20885	34808	20,83	1,89	3,86	6,67
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	20,93	2,04	3,82	6,67
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	20,37	1,80	3,82	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	20,48	1,91	3,79	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	20,68	2,15	3,73	6,52
BSCO TDSA 127-65	127,0	65,09	98,43	206,0	267,7	3413	4494	2888	21300	35500	20,78	1,93	3,82	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	20,90	2,18	3,79	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	21,15	2,73	3,73	6,59
BSCO TDS 108-41	108,0	41,3	92,1	180,6	229,6	3286	3350	2868	19200	32000	20,28	1,74	2,29	4,47
BSCO TDS 108-44	108,0	44,5	92,1	180,6	229,6	3075	3350	2692	17600	29400	20,22	1,59	2,3	4,47

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
88,9	9,35	70,2	19,8	2336	E	EU	97,3	95,2	1207	25152
						IU	97,3	95,2	1207	25152

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 38	120,7	68,3	98,4	203,2	266,7	3080	3259	2612	14730	24550	20,16	0,98	3,85	6,52
NC 38	120,7	76,2	98,4	203,2	266,7	2180	3259	1867	10423	17372	19,87	0,69	4,54	6,52
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	20,27	1,03	3,82	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	20,37	1,03	3,79	6,52
NC 38	127,0	65,1	98,4	203,2	266,7	3413	4494	2888	16535	27559	20,68	1,10	3,82	6,59
NC 38	127,0	61,9	98,4	203,2	266,7	3729	4494	3150	18070	30116	20,78	1,20	3,79	6,59
NC 38	127,0	53,98	98,4	203,2	266,7	4452	4494	3747	21570	35950	21,02	1,43	3,73	6,59
NC 40	133,4	68,3	98,4	177,8	254	4091	4684	3454	20885	34808	20,83	1,38	3,86	6,67
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	20,93	1,50	3,82	6,67
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	20,37	1,32	3,82	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	20,48	1,40	3,79	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	20,68	1,58	3,73	6,52
BSCO TDSA 127-65	127,0	65,09	98,43	206,0	267,7	3413	4494	2888	21300	35500	20,78	1,41	3,82	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	20,90	1,60	3,79	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	21,15	2,00	3,73	6,59
BSCO TDS 108-41	108,0	41,3	92,1	180,6	229,6	3286	3350	2868	19200	32000	20,28	1,27	2,29	4,47
BSCO TDS 108-44	108,0	44,5	92,1	180,6	229,6	3075	3350	2692	17600	29400	20,22	1,17	2,3	4,47

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Mкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
88,9	9,35	70,2	19,8	2336	X	EU	123,3	120,6	1530	31865
						IU	123,3	120,6	1530	31865

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 38	127,0	65,09	98,4	203,2	266,7	3413	4494	2888	16535	27559	20,90	0,86	3,82	6,59
NC 38	120,7	68,3	98,4	203,2	266,7	3080	3259	2612	14730	24550	20,38	0,77	3,85	6,52
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	20,49	0,82	3,82	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	20,59	0,82	3,79	6,52
NC 38	127,0	61,9	98,4	203,2	266,7	3729	4494	3150	18070	30116	21	0,95	3,79	6,59
NC 38	127,0	53,98	98,4	203,2	266,7	4452	4494	3747	21570	35950	21,24	1,13	3,73	6,59
NC 40	133,4	68,3	98,4	177,8	254	4091	4684	3454	20885	34808	21,05	1,09	3,86	6,67
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	21,15	1,18	3,82	6,67
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	20,5	1,04	3,82	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	20,66	1,11	3,79	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	20,97	1,24	3,73	6,52
BSCO TDSA 127-65	127,0	65,09	98,43	206,0	267,7	3413	4494	2888	21300	35500	20,90	1,11	3,82	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	21,07	1,26	3,79	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	21,44	1,58	3,73	6,59
BSCO TDS 108-41	108,0	41,3	92,1	180,6	229,6	3286	3350	2868	19200	32000	20,28	1,00	2,29	4,47
BSCO TDS 108-44	108,0	44,5	92,1	180,6	229,6	3075	3350	2692	17600	29400	20,22	0,92	2,3	4,47

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
88,9	9,35	70,2	19,8	2336	G	EU	136,3	133,3	1691	35222

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 38	127,0	61,91	98,4	203,2	266,7	3729	4494	3150	18069	30116	21,00	0,86	3,79	6,59
NC 38	120,7	68,3	98,4	203,2	266,7	3080	3259	2612	14730	24550	20,38	0,70	3,85	6,52
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	20,49	0,74	3,82	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	20,59	0,74	3,79	6,52
NC 38	127,0	65,1	98,4	203,2	266,7	3413	4494	2888	16535	27559	20,90	0,78	3,82	6,59
NC 38	127,0	53,98	98,4	203,2	266,7	4452	4494	3747	21570	35950	21,24	1,02	3,85	6,52
NC 40	133,4	68,3	98,4	177,8	254	4091	4684	3454	20885	34808	21,05	0,99	3,86	6,67
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	21,15	1,07	3,82	6,67
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	20,50	0,94	3,82	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	20,66	1,00	3,79	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	20,97	1,13	3,73	6,52
BSCO TDSA 127-65	127,0	65,09	98,43	206,0	267,7	3413	4494	2888	21300	35500	20,90	1,01	3,82	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	21,07	1,14	3,79	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	21,44	1,43	3,85	6,52
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	24,67	0,98	3,33	6,59

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Mkp
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
88,9	9,35	70,2	19,8	2336	S	EU	175,1	171,3	2174	45274

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 38	127,0	54,0	98,4	203,2	266,7	4452	4494	3747	21570	35950	21,24	0,79	3,73	6,59
NC 38	120,7	68,3	98,4	203,2	266,7	3080	3259	2612	14730	24550	20,38	0,54	3,85	6,52
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	20,49	0,57	3,82	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	20,59	0,57	3,79	6,52
NC 38	127,0	61,9	98,4	203,2	266,7	3729	4494	3150	18070	30116	21,00	0,67	3,79	6,59
NC 38	127,0	65,1	98,4	203,2	266,7	3413	4494	2888	16535	27559	20,90	0,61	3,82	6,59
NC 40	133,4	68,3	98,4	177,8	254	4091	4684	3454	20885	34808	21,05	0,77	3,86	6,67
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	21,15	0,83	3,82	6,67
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	20,50	0,73	3,82	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	20,66	0,78	3,79	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	20,97	0,88	3,73	6,52
BSCO TDSA 127-65	127,0	65,09	98,43	206,0	267,7	3413	4494	2888	21300	35500	20,90	0,78	3,82	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	21,07	0,89	3,79	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	21,44	1,11	3,73	6,59

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
88,9	11,4	66,1	23,1	2777	D	IU	84,7	85,1	1051	20948
						EU	84,7	85,1	1051	20948

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
BSCO TDS 108-41	108,0	41,3	92,1	180,6	229,6	3286	3350	2868	19200	32000	23,59	1,53	2,29	4,47
BSCO TDS 108-44	108,0	44,5	92,1	180,6	229,6	3075	3350	2692	17600	29400	23,53	1,40	2,3	4,47
NC 38	127,0	65,09	98,4	203,2	266,7	3413	4494	2888	16535	27559	23,94	1,32	3,43	6,59
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	23,53	1,24	3,43	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	23,64	1,24	3,4	6,52
NC 38	127,0	61,9	98,4	203,2	266,7	3729	4494	3150	18070	30116	24,04	1,44	3,4	6,59
NC 38	127,0	53,98	98,4	203,2	266,7	4452	4494	3747	21570	35950	24,28	1,72	3,33	6,59
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	24,20	1,80	3,43	6,57
NC 40	139,7	57,15	98,4	177,8	254,0	5186	6046	4359	26800	44665	24,88	2,13	3,36	6,74
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	23,66	1,58	3,43	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	23,77	1,69	3,4	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	23,97	1,89	3,33	6,52
BSCO TDS 127-65	127,0	65,1	98,4	206,0	267,7	3413	4494	2888	21300	35500	24,07	1,69	3,43	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	24,04	1,92	3,4	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	24,28	2,41	3,33	6,59

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
88,9	11,4	66,1	23,1	2777	E	IU	115,6	116,0	1434	28575
						EU	115,6	116,0	1434	28575

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
BSCO TDS 108-41	108,0	41,3	92,1	180,6	229,6	3286	3350	2868	19200	32000	23,59	1,12	2,29	4,47
BSCO TDS 108-44	108,0	44,5	92,1	180,6	229,6	3075	3350	2692	17600	29400	23,53	1,03	2,3	4,47
NC 38	127,0	65,09	98,4	203,2	266,7	3413	4494	2888	16535	27559	23,94	0,96	3,43	6,59
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	23,53	0,91	3,43	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	23,64	0,91	3,4	6,52
NC 38	127,0	61,9	98,4	203,2	266,7	3729	4494	3150	18070	30116	24,04	1,05	3,4	6,59
NC 38	127,0	53,98	98,4	203,2	266,7	4452	4494	3747	21570	35950	24,28	1,26	3,33	6,59
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	24,20	1,32	3,43	6,57
NC 40	139,7	57,15	98,4	177,8	254,0	5186	6046	4359	26800	44665	24,88	1,56	3,36	6,74
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	23,66	1,16	3,43	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	23,77	1,24	3,4	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	23,97	1,39	3,33	6,52
BSCO TDSA 127-65	127,0	65,09	98,43	206,0	267,7	3413	4494	2888	21300	35500	24,07	1,24	3,43	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	24,04	1,41	3,4	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	24,28	1,76	3,33	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	24,67	0,98	3,33	6,59

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Mкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
88,9	11,4	66,1	23,1	2777	X	EU	146,4	147,0	1817	36202
						IU	146,4	147,0	1817	36202

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 38	127,0	61,91	98,4	203,2	266,7	3729	4494	3150	18069	30116	24,23	0,83	3,4	6,59
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	23,73	0,72	3,43	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	23,83	0,72	3,4	6,52
NC 38	127,0	65,1	98,4	203,2	266,7	3413	4494	2888	16535	27559	24,13	0,76	3,43	6,59
NC 38	127,0	53,98	98,4	203,2	266,7	4452	4494	3747	21570	35950	24,47	0,99	3,33	6,59
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	24,39	1,04	3,43	6,57
NC 40	139,7	57,15	98,4	177,8	254,0	5186	6046	4359	26800	44665	25,07	1,23	3,36	6,74
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	23,74	0,92	3,43	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	23,90	0,98	3,4	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	24,10	1,10	3,33	6,52
BSCO TDSA 127-65	127,0	65,09	98,43	206,0	267,7	3413	4494	2888	21300	35500	20,84	0,98	3,43	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	24,31	1,11	3,4	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	24,56	1,39	3,33	6,59
BSCO TDS 108-41	108,0	41,3	92,1	180,6	229,6	3286	3350	2868	19200	32000	23,59	0,88	2,29	4,47
BSCO TDS 108-44	108,0	44,5	92,1	180,6	229,6	3075	3350	2692	17600	29400	23,53	0,81	2,3	4,47

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
88,9	11,4	66,1	23,1	2777	G	EU	161,9	162,5	2010	40024
					S	EU	208,2	209,0	2584	51459

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 38	127,0	54,0	98,4	203,2	266,7	4452	4494	3747	21570	35950	24,47	0,90	3,33	6,59
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	23,73	0,65	3,43	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	23,83	0,65	3,4	6,52
NC 38	127,0	61,9	98,4	203,2	266,7	3729	4494	3150	18070	30116	24,24	0,75	3,4	6,59
NC 38	127,0	65,1	98,4	203,2	266,7	3413	4494	2888	16535	27559	24,13	0,69	3,43	6,59
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	24,39	0,94	3,43	6,57
NC 40	139,7	57,15	98,4	177,8	254,0	5186	6046	4359	26800	44665	25,07	1,12	3,36	6,74
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	23,74	0,83	3,43	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	23,90	0,88	3,4	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	24,10	0,99	3,33	6,52
BSCO TDSA 127-65	127,0	65,09	98,43	206,0	267,7	3413	4494	2888	21300	35500	24,19	0,89	3,43	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	24,31	1,00	3,4	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	24,67	1,26	3,33	6,59
NC 40	139,7	57,15	98,4	177,8	254,0	5186	6046	4359	26800	44665	25,07	0,87	3,36	6,74
NC 38	120,7	65,1	98,4	203,2	266,7	3413	3259	2888	15600	25996	23,73	0,51	3,43	6,52
NC 38	120,7	61,9	98,4	203,2	266,7	3729	3259	3150	15600	25996	23,83	0,51	3,4	6,52
NC 38	127	65,1	98,4	203,2	266,7	3413	4494	2888	16535	27559	24,13	0,54	3,43	6,59
NC 38	127	61,9	98,4	203,2	266,7	3729	4494	3150	18070	30116	24,24	0,59	3,4	6,59
NC 38	127	53,98	98,4	203,2	266,7	4452	4494	3747	21570	35950	24,47	0,70	3,33	6,59
NC 40	133,4	65,1	98,4	177,8	254	4424	4684	3729	22582	37637	24,39	0,73	3,43	6,57
BSCO TDSA 121-65	120,7	65,1	98,43	206,0	267,7	3413	3259	2888	19920	33200	23,90	0,65	3,43	6,52
BSCO TDSA 121-62	120,7	61,9	98,43	206,0	267,7	3729	3259	3150	21180	35300	24,01	0,69	3,4	6,52
BSCO TDSA 121-54	120,7	53,98	98,43	206,0	267,7	4452	3259	3747	23790	39650	24,21	0,77	3,33	6,52
BSCO TDSA 127-65	127,0	65,09	98,43	206,0	267,7	3413	4494	2888	21300	35500	24,30	0,69	3,43	6,59
BSCO TDSA 127-62	127,0	61,91	98,43	206,0	267,7	3729	4494	3150	24100	40200	24,42	0,78	3,4	6,59
BSCO TDSA 127-54	127,0	53,98	98,43	206,0	267,7	4452	4494	3747	30200	50400	24,67	0,98	3,33	6,59

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
101,6	8,38	84,8	20,9	24,55	D	IU	57,4	54,7	930	23137
						EU	57,4	54,7	930	23137
					E	IU	78,2	74,6	1268	31560
						EU	78,2	74,6	1268	31560

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 40	133,4	71,44	106,4	177,8	254	3743	4684	3165	19106	31844	21,62	1,38	5,5	8,42
NC 40	133,4	68,3	106,4	177,8	254	4091	4684	3454	20884	34808	21,72	1,50	5,47	8,42
NC 40	133,4	65,1	106,4	177,8	254	4424	4684	3729	22582	37637	21,89	1,63	5,44	8,42
NC 40	139,7	61,9	106,4	177,8	254	4741	6046	3991	24500	40829	22,36	1,76	5,41	8,49
NC 40	139,7	50,8	106,4	177,8	254	5724	6046	4805	29580	49302	22,66	2,13	5,33	8,49
BSCO TDSA 133-68	133,4	68,26	106,36	180,6	255	4091	4684	3454	27000	45000	21,98	1,94	5,47	8,42
BSCO TDSA 140-62	139,7	61,91	106,36	180,6	255	4741	6046	3991	33300	55400	22,50	2,39	5,41	8,49
NC 46	152,4	82,55	114,3	177,8	254	4750	6357	4009	27354	45590	22,55	1,97	5,63	8,68
NC 46	146,1	82,6	114,3	177,8	254	4750	4868	4009	27055	45091	22,07	1,95	5,63	8,6
NC 46	146,1	76,2	114,3	177,8	254	5542	4868	4664	27705	46175	22,32	2,00	5,56	8,6
NC 46	152,4	76,2	114,3	177,8	254	5542	6357	4664	31915	53188	22,80	2,30	5,56	8,68
BSCO TDS 152-83	152,4	82,60	114,3	180,6	255	4750	6357	4009	35400	59000	22,89	2,55	5,63	8,68
BSCO TDSA 152-76	152,4	76,20	114,3	180,6	255	5542	6357	4664	43600	72700	23,17	3,14	5,56	8,68
NC 40	133,4	71,44	106,4	177,8	254	3743	4684	3165	19106	31844	21,62	1,01	5,5	8,42
NC 40	133,4	68,3	106,4	177,8	254	4091	4684	3454	20884	34808	21,72	1,10	5,47	8,42
NC 40	133,4	65,1	106,4	177,8	254	4424	4684	3729	22582	37637	21,82	1,19	5,44	8,42
NC 40	139,7	61,9	106,4	177,8	254	4741	6046	3991	24500	40829	22,36	1,29	5,41	8,49
NC 40	139,7	50,8	106,4	177,8	254	5724	6046	4805	29580	49302	22,66	1,56	5,33	8,49
BSCO TDSA 133-68	133,4	68,26	106,36	180,6	255	4091	4684	3454	27000	45000	21,98	1,43	5,47	8,42
BSCO TDSA 140-62	139,7	61,91	106,36	180,6	255	4741	6046	3991	33300	55400	22,50	1,76	5,41	8,49
NC 46	152,4	82,55	114,3	177,8	254	4750	6357	4009	27354	45590	22,55	1,44	5,63	8,68
NC 46	152,4	76,2	119,1	177,8	254	5542	6357	4664	31915	53188	22,78	1,69	5,56	8,68
NC 46	146,1	82,6	114,3	177,8	254	4750	4868	4009	27055	45091	22,07	1,43	5,63	8,6
NC 46	146,1	76,2	114,3	177,8	254	5542	4868	4664	27705	46175	22,32	1,46	5,56	8,6
BSCO TDSA 152-83	152,4	82,55	114,3	180,6	255	4750	6357	4009	35400	59000	22,89	1,87	5,63	8,68
TMK TDSA 152-76	152,4	76,20	114,3	180,6	255	5542	6357	4664	43600	72700	23,17	2,30	5,56	8,68

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Mкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
101,6	8,38	84,8	20,9	24,55	X	IU	99,1	94,5	1607	39986
						EU	99,1	94,5	1607	39986
					G	IU	109,6	104,5	1776	44200
						EU	109,6	104,5	1776	44200

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 40	133,4	68,26	106,4	177,8	254	4091	4684	3454	20885	34808	21,78	0,87	5,47	8,42
NC 40	133,4	71,4	106,4	177,8	254	3743	4684	3165	19106	31844	21,77	0,80	5,5	8,42
NC 40	133,4	65,1	106,4	177,8	254	4424	4684	3729	22582	37637	21,97	0,94	5,44	8,42
NC 40	139,7	61,9	106,4	177,8	254	4741	6046	3991	24500	40829	22,51	1,02	5,41	8,49
NC 40	139,7	50,8	106,4	177,8	254	5724	6046	4805	29580	49302	22,81	1,23	5,33	8,49
BSCO TDSA 133-68	133,4	68,26	106,36	180,6	255	4091	4684	3454	27000	45000	22,11	1,13	5,47	8,42
BSCO TDSA 140-62	139,7	61,91	106,36	180,6	255	4741	6046	3991	33300	55400	22,72	1,39	5,41	8,49
NC 46	152,4	82,55	114,3	177,8	254	4750	6357	4009	27354	45590	22,89	1,14	5,63	8,68
NC 46	152,4	76,2	119,1	177,8	254	5542	6357	4664	31912	53188	23,12	1,33	5,56	8,68
NC 46	146,1	82,6	114,3	177,8	254	4750	4868	4009	27055	45091	22,41	1,13	5,63	8,6
NC 46	146,1	76,2	114,3	177,8	254	5542	4868	4664	27705	46175	22,66	1,15	5,56	8,6
BSCO TDSA 152-83	152,4	82,55	114,3	180,6	255	4750	6357	4009	35400	59000	23,02	1,48	5,63	8,68
BSCO TDSA 152-76	152,4	76,20	114,3	180,6	255	5542	6357	4664	43600	72700	23,43	1,82	5,56	8,68
NC 40	139,7	61,91	106,4	177,8	254	4741	6046	3991	24500	40829	22,51	0,92	5,41	8,49
NC 40	133,4	71,4	106,4	177,8	254	3743	4684	3165	19106	31844	22,73	0,72	5,5	8,42
NC 40	133,4	68,3	106,4	177,8	254	4091	4684	3454	20885	34808	23,79	0,79	5,47	8,42
NC 40	133,4	65,1	106,4	177,8	254	4424	4684	3729	22582	37637	24,86	0,85	5,44	8,42
NC 40	139,7	50,8	106,4	177,8	254	5724	6046	4805	29580	49302	22,81	1,12	5,33	8,49
BSCO TDSA 133-68	133,4	68,26	106,36	180,6	255	4091	4684	3454	27000	45000	22,11	1,02	5,47	8,42
BSCO TDSA 140-62	139,7	61,91	106,36	180,6	255	4741	6046	3991	33300	55400	22,72	1,25	5,41	8,49
NC 46	152,4	82,55	114,3	177,8	254	4750	6357	4009	27354	45590	22,89	1,03	5,63	8,68
NC 46	152,4	76,2	119,1	177,8	254	5542	6357	4664	31912	53188	23,12	1,20	5,56	8,68
NC 46	146,1	82,6	114,3	177,8	254	4750	4868	4009	27055	45091	27,21	1,02	5,63	8,6
NC 46	146,1	76,2	114,3	177,8	254	5542	4868	4664	27705	46175	28,42	1,04	5,56	8,6
BSCO TDSA 152-76	152,4	76,20	114,3	180,6	255	5542	6357	4664	43600	72700	23,43	1,64	5,56	8,68
BSCO TDSA 152-83	152,4	82,55	114,3	180,6	255	4750	6357	4009	35400	59000	23,02	1,33	5,63	8,68

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
101,6	8,38	84,8	20,9	24,55	S	IU	138,6	134,2	2281	56800
						EU	138,6	134,2	2281	56800

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 40	139,7	50,80	106,4	177,8	254	5724	6046	4805	29580	49302	22,81	0,87	5,33	8,49
NC 40	139,7	61,91	106,4	177,8	254	4741	6046	3991	24500	40829	22,51	0,72	5,41	8,49
NC 40	133,4	71,4	106,4	177,8	254	3743	4684	3165	19106	31844	22,73	0,56	5,5	8,42
NC 40	133,4	68,3	106,4	177,8	254	4091	4684	3454	20884	34808	23,79	0,61	5,47	8,42
NC 40	133,4	65,1	106,4	177,8	254	4424	4684	3729	22582	37637	24,86	0,66	5,44	8,42
BSCO TDSA 133-68	133,4	68,26	106,36	180,6	255	4091	4684	3454	27000	45000	22,20	0,79	5,47	8,42
BSCO TDSA 140-62	139,7	61,91	106,36	180,6	255	4741	6046	3991	33300	55400	22,72	0,98	5,41	8,49
NC 46	152,4	76,20	114,3	177,8	254	5542	6357	4664	31912	53188	23,14	0,94	5,56	8,68
NC 46	152,4	82,55	114,3	177,8	254	4750	6357	4009	27354	45590	22,89	0,80	5,63	8,68
NC 46	146,1	82,6	114,3	177,8	254	4750	4868	4009	27055	45091	27,21	0,79	5,63	8,6
NC 46	146,1	76,2	114,3	177,8	254	5542	4868	4664	27705	46175	28,42	0,81	5,56	8,6
BSCO TDSA 152-83	152,4	82,55	114,3	180,6	255	4750	6357	4009	35400	59000	23,02	1,04	5,63	8,68
BSCO TDSA 152-76	152,4	76,20	114,3	180,6	255	5542	6357	4666	43600	72700	23,43	1,28	5,56	8,68

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qt	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	6,88	100,54	20,5	2323	E	IU	49,4	54,5	1200	35104
						EU	49,4	54,5	1200	35104
	8,56	97,2	24,7	2843	D	IEU	52,5	49,7	1077	30613
						EU	52,5	49,7	1077	30613

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	152,4	85,73	119,10	177,8	254	4331	6357	3661	24940	41563	21,41	1,18	7,74	10,68
NC 50	158,8	98,43	127,00	177,8	254	4462	5835	3778	27515	45859	22,11	1,31	7,91	10,81
NC 46	158,8	82,55	119,10	177,8	254	4750	7909	4009	27653	46089	26,08	1,51	7,23	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27350	45590	25,57	1,49	7,23	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31910	53188	25,82	1,74	7,16	10,68
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	26,33	1,76	7,16	10,76
NC 46	158,8	69,9	119,10	177,8	254	6270	7909	5266	36500	60837	26,57	1,99	7,1	10,76
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40375	67290	26,78	2,20	7,03	10,76
NC 46	158,8	57,2	119,10	177,8	254	7537	7909	6314	43875	73127	29,97	2,39	6,96	10,76
BSCO TDS 159-83	158,8	82,6	119,10	180,6	255	4750	7909	4009	35400	59000	26,38	1,93	7,23	10,76
BSCO TDSA 159-76	158,8	76,2	119,06	180,6	255	5542	7909	4664	44000	73300	26,65	2,39	7,16	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	26,9	2,80	7,1	10,76
NC 50	168,3	95,25	119,10	177,8	254	4945	8281	4177	30960	51610	26,21	1,69	7,4	10,93
NC 50	158,8	95,3	127,00	177,8	254	4945	5835	4177	30495	50822	25,4	1,66	7,4	10,76
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	25,55	1,82	7,35	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	25,69	1,96	7,31	10,76
NC 50	161,9	95,3	127,00	177,8	254	4945	6635	4177	30650	51082	25,65	1,67	7,4	10,85
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	25,8	1,83	7,35	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	25,94	1,98	7,31	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	26,21	2,24	7,22	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	26,46	2,24	7,13	10,85
NC 50	168,3	92,1	127,00	177,8	254	5413	8281	4564	33864	56440	26,34	1,84	7,35	10,93
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36687	61145	26,49	2,00	7,31	10,93
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	27,02	2,56	7,13	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	27,14	2,69	7,09	10,93
BSCO TDS 162-95-1	161,9	95,3	127,00	180,7	255	4945	6635	4177	38800	64700	25,78	2,11	7,4	10,85
BSCO TDS 162-92	161,9	92,1	127,00	180,7	255	5413	6635	4564	44100	73500	25,84	2,40	7,35	10,85
BSCO TDSA 168-95-1	168,28	95,25	127,00	180,7	255	4945	8281	4177	39100	65200	27,16	2,13	7,4	10,93
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	26,37	2,43	7,35	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	26,52	2,70	7,31	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	27,09	3,70	7,13	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qt	Mkp
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	8,56	97,2	24,7	2843	E	IEU	71,6	67,8	1469	41760
						EU	71,6	67,8	1469	41760

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	158,8	82,55	119,10	177,8	254	4750	7909	4009	27653	46089	26,08	1,10	7,23	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27350	45590	25,57	1,09	7,23	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31910	53188	25,82	1,27	7,16	10,68
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	26,33	1,29	7,16	10,76
NC 46	158,8	69,9	119,10	177,8	254	6270	7909	5266	36500	60837	26,57	1,46	7,1	10,76
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40375	67290	26,78	1,61	7,03	10,76
NC 46	158,8	57,2	119,10	177,8	254	7537	7909	6314	43875	73127	26,97	1,75	6,96	10,76
BSCO TDSA 159-83	158,75	82,55	119,06	180,6	255	4750	7909	4009	35400	59000	26,38	1,41	7,23	10,76
BSCO TDSA 159-76	158,8	76,2	119,06	180,6	255	5542	7909	4664	44000	73300	26,65	1,76	7,16	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	26,9	2,05	7,1	10,76
NC 50	168,28	95,25	119,10	177,8	254	4945	8281	4177	30960	51610	26,21	1,24	7,4	10,93
NC 50	158,8	95,3	127,00	177,8	254	4945	5835	4177	30495	50822	25,4	1,22	7,4	10,76
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	25,55	1,33	7,35	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	25,69	1,43	7,31	10,76
NC 50	161,9	95,3	127,00	177,8	254	4945	6635	4177	30650	51082	25,65	1,22	7,4	10,85
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	25,8	1,34	7,35	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	25,94	1,45	7,31	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	26,21	1,64	7,22	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	26,46	1,64	7,13	10,85
NC 50	168,3	92,1	127,00	177,8	254	5413	8281	4564	33864	56440	26,34	1,35	7,35	10,93
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36687	61145	26,49	1,46	7,31	10,93
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	27,02	1,88	7,13	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	27,14	1,97	7,09	10,93
BSCO TDSA 162-95-1	161,9	95,25	127,00	180,7	255	4945	6635	4177	38800	64700	25,78	1,55	7,4	10,85
BSCO TDS 162-92	161,9	92,1	127,00	180,7	255	5413	6635	4564	44100	73500	25,84	1,76	7,35	10,85
BSCO TDSA 168-95-1	168,28	95,25	127,00	180,7	255	4945	8281	4177	39100	65200	26,2	1,56	7,4	10,93
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	26,37	1,78	7,35	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	26,52	1,98	7,31	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	27,09	2,71	7,13	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	8,56	97,2	24,7	2843	X	IEU	88,0	85,8	1862	52907
						EU	88,0	85,8	1862	52907

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	26,36	1,02	7,16	10,76
NC 46	158,8	82,6	119,10	177,8	254	4750	7909	4009	27653,4	46089	26,1	0,87	7,23	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27354	45590	25,59	0,86	7,23	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31912,8	53188	25,84	1,01	7,16	10,68
NC 46	158,8	69,9	119,10	177,8	254	6270	7909	5266	36500	60837	26,59	1,15	7,1	10,76
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40375	67290	26,8	1,27	7,03	10,76
NC 46	158,8	57,2	119,10	177,8	254	7537	7909	6314	43875	73127	26,99	1,38	6,96	10,76
BSCO TDSA 159-83	158,75	82,55	119,06	180,6	255	4750	7909	4009	35400	59000	26,46	1,12	7,23	10,76
BSCO TDSA 159-76	158,8	76,2	119,06	180,6	255	5542	7909	4664	44000	73300	26,74	1,39	7,16	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	26,98	1,62	7,1	10,76
NC 50	168,3	95,25	127,00	177,8	254	4945	8281	4177	30960	51610	26,61	0,98	7,4	10,93
NC 50	158,8	95,3	127,00	177,8	254	4945	5835	4177	30495	50822	25,82	0,96	7,4	10,76
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	25,96	1,05	7,35	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	26,1	1,13	7,31	10,76
NC 50	161,9	95,3	127,00	177,8	254	4945	6635	4177	30650	51082	26,07	0,97	7,4	10,85
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	26,22	1,06	7,35	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	26,36	1,14	7,31	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	26,62	1,29	7,22	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	26,88	1,29	7,13	10,85
NC 50	168,3	92,1	127,00	177,8	254	5413	8281	4564	33864	56440	26,76	1,07	7,35	10,93
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36687	61145	26,9	1,16	7,31	10,93
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	27,44	1,48	7,13	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	27,56	1,55	7,09	10,93
BSCO TDSA 162-95-1	161,9	95,25	127,00	180,7	255	4945	6635	4177	38800	64700	25,92	1,22	7,4	10,85
BSCO TDS 162-92	161,9	92,1	127,00	180,7	255	5413	6635	4564	44100	73500	25,97	1,39	7,35	10,85
BSCO TDSA 168-95-1	168,28	95,25	127,00	180,7	255	4945	8281	4177	39100	65200	26,34	1,23	7,4	10,93
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	26,5	1,40	7,35	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	26,65	1,56	7,31	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	27,23	2,14	7,13	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qt	Mkp
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	8,56	97,2	24,7	2843	G	IEU	95,3	94,9	2058	58481
						EU	95,3	94,9	2058	58481

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	26,36	0,92	7,16	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27354	45590	25,59	0,78	7,23	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31912	53188	25,84	0,91	7,16	10,68
NC 46	158,8	82,6	119,10	177,8	254	4750	7909	4009	27653	46089	26,1	0,79	7,23	10,76
NC 46	158,8	69,9	119,10	177,8	254	6270	7909	5266	36500	60837	26,59	1,04	7,1	10,76
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40375	67290	26,8	1,15	7,03	10,76
NC 46	158,8	57,2	119,10	177,8	254	7537	7909	6314	43875	73127	26,99	1,25	6,96	10,76
BSCO TDSA 159-83	158,75	82,55	119,06	180,6	255	4750	7909	4009	35400	59000	26,46	1,01	7,23	10,76
BSCO TDSA 159-76	158,8	76,2	119,06	180,6	255	5542	7909	4664	44000	73300	26,74	1,25	7,16	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	26,98	1,46	7,1	10,76
NC 50	168,3	95,25	127,00	177,8	254	4945	8281	4177	30960	51610	26,61	0,88	7,4	10,93
NC 50	158,8	95,3	127,00	177,8	254	4945	5835	4177	30495	50822	25,82	0,87	7,4	10,76
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	25,96	0,95	7,35	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	26,1	1,02	7,31	10,76
NC 50	161,9	95,3	127,00	177,8	254	4945	6635	4177	30650	51082	26,07	0,87	7,4	10,85
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	26,22	0,96	7,35	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	26,36	1,04	7,31	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	26,62	1,17	7,22	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	26,88	1,17	7,13	10,85
NC 50	168,3	92,1	127,00	177,8	254	5413	8281	4564	33864	56440	26,76	0,97	7,35	10,93
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36687	61145	26,9	1,05	7,31	10,93
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	27,44	1,34	7,13	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	27,56	1,41	7,09	10,93
BSCO TDSA 162-95-1	161,9	95,25	127,00	180,7	255	4945	6635	4177	38800	64700	25,92	1,11	7,4	10,85
BSCO TDS 162-92	161,9	92,1	127,00	180,7	255	5413	6635	4564	44100	73500	25,97	1,26	7,35	10,85
BSCO TDSA 168-95-1	168,28	95,25	127,00	180,7	255	4945	8281	4177	39100	65200	26,34	1,11	7,4	10,93
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	26,5	1,27	7,35	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	26,65	1,41	7,31	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	27,23	1,94	7,13	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	8,56	97,2	24,7	2843	S	IEU	115,5	121,9	2643	75120
						EU	115,5	121,9	2643	75120

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	158,8	69,85	119,10	177,8	254	6270	7909	5266	36500	60837	26,59	0,81	7,10	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27354	45590	25,59	0,61	7,23	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31912	53188	25,84	0,71	7,16	10,68
NC 46	158,8	82,6	119,10	177,8	254	4750	7909	4009	27653	46089	26,1	0,61	7,23	10,76
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	26,36	0,72	7,16	10,76
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40375	67290	26,8	0,90	7,03	10,76
NC 46	158,8	57,2	119,10	177,8	254	7537	7909	6314	43875	73127	26,99	0,97	6,96	10,76
BSCO TDSA 159-83	158,75	82,55	119,06	180,6	255	4750	7909	4009	35400	59000	26,82	0,79	7,23	10,76
BSCO TDSA 159-76	158,8	76,2	119,06	180,6	255	5542	7909	4664	44000	73300	27,1	0,98	7,16	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	27,34	1,14	7,10	10,76
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36720	61200	26,9	0,81	7,31	10,93
NC 50	158,8	95,3	127,00	177,8	254	4945	5835	4177	30495	50822	25,82	0,68	7,4	10,76
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	25,96	0,74	7,35	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	26,1	0,80	7,31	10,76
NC 50	161,9	95,3	127,00	177,8	254	4945	6635	4177	30650	51082	26,07	0,68	7,4	10,85
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	26,22	0,74	7,35	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	26,36	0,81	7,31	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	26,62	0,91	7,22	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	26,88	0,91	7,13	10,85
NC 50	168,28	95,25	127,00	177,8	254	4945	8281	4177	30960	51610	26,61	0,69	7,4	10,93
NC 50	168,3	92,1	127,00	177,8	254	5413	8281	4564	33864	56440	26,76	0,75	7,35	10,93
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	27,44	1,04	7,13	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	27,56	1,09	7,09	10,93
BSCO TDSA 162-95-1	161,9	95,25	127,00	180,7	255	4945	6635	4177	38800	64700	26,08	0,86	7,4	10,85
BSCO TDS 162-92	161,9	92,1	127,00	180,7	255	5413	6635	4564	44100	73500	26,13	0,98	7,35	10,85
BSCO TDSA 168-95-1	168,28	95,25	127,00	180,7	255	4945	8281	4177	39100	65200	26,49	0,87	7,4	10,93
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	26,66	0,99	7,35	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	26,81	1,10	7,31	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	27,38	1,51	7,13	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	10,92	95,2	29,8	3547	D	IEU	65,5	63,4	1343	36664
						EU	65,5	63,4	1343	36664

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	31,65	1,47	6,52	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27354	45590	30,89	1,24	6,6	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31912	53188	31,14	1,45	6,52	10,68
NC 46	158,8	82,6	119,10	177,8	254	4750	7909	4009	27653	46089	31,39	1,26	6,6	10,76
NC 46	158,8	69,9	119,10	177,8	254	6270	7909	5266	36500	60837	31,88	1,66	6,46	10,76
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40375	67290	32,09	1,84	6,4	10,76
NC 46	158,8	57,2	119,10	177,8	254	7537	7909	6314	43875	73127	32,28	1,99	6,35	10,76
BSCO TDSA 159-83	158,75	82,55	119,06	180,6	255	4750	7909	4009	35400	59000	31,68	1,61	6,6	10,76
BSCO TDS 159-76	158,8	76,2	119,10	180,6	255	5542	7909	4664	44000	73300	31,96	2,00	6,52	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	32,2	2,33	6,46	10,76
NC 50	168,3	92,08	127,00	177,8	254	5413	8281	4564	33860	56440	31,63	1,54	6,72	10,93
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	30,85	1,52	6,72	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	30,99	1,63	6,68	10,76
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	31,1	1,52	6,72	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	31,24	1,65	6,68	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	31,51	1,87	6,6	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	31,76	1,87	6,52	10,85
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36687	61145	31,78	1,67	6,68	10,93
NC 50	168,3	82,6	130,20	177,8	254	6719	8281	5645	43100	71810	2,04	1,96	6,6	10,93
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	32,31	2,14	6,52	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	32,43	2,24	6,5	10,93
BSCO TDS 162-92	161,9	92,1	127,00	180,7	255	5413	6635	4564	44100	73500	31,11	2,00	6,72	10,85
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	31,64	2,03	6,72	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	31,78	2,26	6,68	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	32,36	3,09	6,52	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	10,92	95,2	29,8	3547	E	IEU	89,3	86,4	1833	50013
						EU	89,3	86,4	1833	50013

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	31,65	1,08	6,52	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27354	45590	30,89	0,91	6,6	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31912	53188	31,14	1,06	6,52	10,68
NC 46	158,8	82,6	119,10	177,8	254	4750	7909	4009	27653	46089	31,39	0,92	6,6	10,76
NC 46	158,8	69,9	119,10	177,8	254	6270	7909	5266	36500	60837	31,88	1,22	6,46	10,76
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40375	67290	32,09	1,35	6,4	10,76
NC 46	158,8	57,2	119,10	177,8	254	7537	7909	6314	43875	73127	32,28	1,46	6,35	10,76
BSCO TDSA 159-83	158,75	82,55	119,06	180,6	255	4750	7909	4009	35400	59000	31,68	1,18	6,6	10,76
BSCO TDSA 159-76	158,75	76,2	119,06	180,6	255	5542	7909	4664	44000	73300	31,96	1,47	6,52	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	32,2	1,71	6,46	10,76
NC 50	168,3	92,08	127,00	177,8	254	5413	8281	4564	33860	56440	31,63	1,13	6,72	10,93
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	30,85	1,11	6,72	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	30,99	1,20	6,68	10,76
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	31,1	1,12	6,72	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	31,24	1,21	6,68	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	31,51	1,37	6,6	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	31,76	1,37	6,52	10,85
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36687	61145	31,78	1,22	6,68	10,93
NC 50	168,3	82,6	130,20	177,8	254	6719	8281	5645	43100	71810	32,04	1,44	6,6	10,93
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	32,31	1,57	6,52	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	32,43	1,64	6,5	10,93
BSCO TDSA 162-92	161,9	92,08	127,00	180,7	255	5413	6635	4564	44100	73500	31,11	1,47	6,72	10,85
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	31,64	1,49	6,72	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	31,78	1,65	6,68	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	32,36	2,26	6,52	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	10,92	95,2	29,8	3547	X	IEU	113,2	109,5	2322	63363
						EU	113,2	109,5	2322	63363

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	158,8	69,85	119,10	177,8	254	6270	7909	5266	36500	60837	32,2	0,96	6,46	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27354	45590	31,21	0,72	6,6	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31912	53188	31,46	0,84	6,52	10,68
NC 46	158,8	82,6	119,10	177,8	254	4750	7909	4009	27653	46089	31,71	0,73	6,6	10,76
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	31,97	0,85	6,52	10,76
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40375	67290	32,41	1,06	6,4	10,76
NC 46	158,8	57,2	119,10	177,8	254	7537	7909	6314	43875	73127	32,6	1,15	6,35	10,76
BSCO TDSA 159-83	158,75	82,55	119,06	180,6	255	4750	7909	4009	35400	59000	31,75	0,93	6,6	10,76
BSCO TDSA 159-76	158,8	76,2	119,06	180,6	255	5542	7909	4664	44000	73300	32,03	1,16	6,52	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	27,23	1,35	6,46	10,76
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36690	61145	32,15	0,96	6,68	10,93
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	31,22	0,88	6,72	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	31,36	0,95	6,68	10,76
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	31,47	0,88	6,72	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	31,61	0,96	6,68	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	31,88	1,08	6,6	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	31,13	1,08	6,52	10,85
NC 50	168,3	92,08	127,00	177,8	254	5413	8281	4564	33860	56440	32,01	0,89	6,72	10,93
NC 50	168,3	82,6	130,20	177,8	254	6719	8281	5645	43100	71810	32,41	1,13	6,6	10,93
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	32,68	1,24	6,52	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	32,81	1,30	6,5	10,93
BSCO TDS 162-92	161,9	92,08	127,00	180,7	255	5413	6635	4564	44100	73500	31,31	1,16	6,72	10,85
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	32,02	1,17	6,72	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	31,98	1,31	6,68	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	32,75	1,79	6,52	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	10,92	95,2	29,8	3547	G	IEU	125,1	121	2566	70038
						EU	125,1	121	2566	70038

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40752	67920	32,41	0,97	6,4	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27354	45590	31,21	0,65	6,6	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31912	53188	31,46	0,76	6,52	10,68
NC 46	158,8	82,6	119,10	177,8	254	4750	7909	4009	27653	46089	31,71	0,66	6,6	10,76
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	31,97	0,77	6,52	10,76
NC 46	158,8	69,9	119,10	177,8	254	6270	7909	5266	36500	60837	32,2	0,87	6,46	10,76
NC 46	158,8	57,2	119,10	177,8	254	7537	7909	6314	43875	73127	32,6	1,04	6,35	10,76
BSCO TDSA 159-83	158,75	82,55	119,06	180,6	255	4750	7909	4009	35400	59000	31,75	0,84	6,6	10,76
BSCO TDSA 159-76	158,8	76,2	119,06	180,6	255	5542	7909	4664	44000	73300	32,03	1,05	6,52	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	32,52	1,22	6,46	10,76
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36690	61145	32,15	0,87	6,68	10,93
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	31,22	0,79	6,72	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	31,36	0,85	6,68	10,76
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	31,47	0,80	6,72	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	31,61	0,86	6,68	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	31,88	0,98	6,6	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	32,13	0,98	6,52	10,85
NC 50	168,3	92,08	127,00	177,8	254	5413	8281	4564	33860	56440	32,01	0,81	6,72	10,93
NC 50	168,3	82,6	130,20	177,8	254	6719	8281	5645	43100	71810	32,41	1,03	6,6	10,93
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	32,68	1,12	6,52	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	32,81	1,17	6,5	10,93
BSCO TDS 162-92	161,9	92,08	127,00	180,7	255	5413	6635	4564	44100	73500	31,31	1,05	6,72	10,85
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	32,02	1,06	6,72	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	31,98	1,18	6,68	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	32,75	1,62	6,52	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
114,3	10,92	95,2	29,8	3547	S	IEU	160,7	155,5	3297	89966
						EU	160,7	155,5	3297	89966

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 46	158,28	57,15	119,10	177,8	254	7537	7909	6314	43876	73127	32,56	0,81	6,35	10,76
NC 46	152,4	82,6	119,10	177,8	254	4750	6357	4009	27354	45590	31,21	0,51	6,6	10,68
NC 46	152,4	76,2	119,10	177,8	254	5542	6357	4664	31912	53188	31,46	0,59	6,52	10,68
NC 46	158,8	82,6	119,10	177,8	254	4750	7909	4009	27653	46089	31,71	0,51	6,6	10,76
NC 46	158,8	76,2	119,10	177,8	254	5542	7909	4664	32262	53770	31,97	0,60	6,52	10,76
NC 46	158,8	69,85	119,10	177,8	254	6270	7909	5266	36500	60837	32,2	0,68	6,46	10,76
NC 46	158,8	63,5	119,10	177,8	254	6935	7909	5817	40375	67290	32,41	0,75	6,4	10,76
BSCO TDSA 159-83	158,75	82,55	119,06	180,6	255	4750	7909	4009	35400	59000	31,75	0,66	6,6	10,76
BSCO TDSA 159-76	158,8	76,2	119,06	180,6	255	5542	7909	4664	44000	73300	32,28	0,81	6,52	10,76
BSCO TDSA 159-70	158,8	69,85	119,06	180,6	255	6270	7909	5266	51400	85600	32,52	0,95	6,46	10,76
NC 50	168,3	76,2	127,00	177,8	254	7511	8281	6300	47020	78367	32,68	0,87	6,52	10,93
NC 50	158,8	92,1	127,00	177,8	254	5413	5835	4564	33373	55623	31,22	0,62	6,72	10,76
NC 50	158,8	88,9	127,00	177,8	254	5864	5835	4937	35930	59881	31,36	0,67	6,68	10,76
NC 50	161,9	92,1	127,00	177,8	254	5413	6635	4564	33545	55907	31,47	0,62	6,72	10,85
NC 50	161,9	88,9	127,00	177,8	254	5864	6635	4937	36340	60568	31,61	0,67	6,68	10,85
NC 50	161,9	82,6	127,00	177,8	254	6719	6635	5645	41068	68447	31,88	0,76	6,6	10,85
NC 50	161,9	76,2	127,00	177,8	254	7511	6635	6300	41068	68447	32,13	0,76	6,52	10,85
NC 50	168,3	92,08	127,00	177,8	254	5413	8281	4564	33860	56440	32,01	0,63	6,72	10,93
NC 50	168,3	88,9	127,00	177,8	254	5864	8281	4937	36687	61145	32,15	0,68	6,68	10,93
NC 50	168,3	82,6	130,20	177,8	254	6719	8281	5645	43100	71810	32,41	0,80	6,6	10,93
NC 50	168,3	73	127,00	177,8	254	7883	8281	6608	49350	82250	32,81	0,91	6,5	10,93
BSCO TDS 162-92	161,9	92,08	127,00	180,7	255	5413	6635	4564	44100	73500	31,31	0,82	6,72	10,85
BSCO TDSA 168-92	168,28	92,08	127,00	180,7	255	5413	8281	4564	44600	74300	31,83	0,83	6,72	10,93
BSCO TDSA 168-89-1	168,28	88,9	127,00	180,7	255	5864	8281	4937	49600	82700	31,98	0,92	6,68	10,93
BSCO TDSA 168-76-1	168,28	76,2	127,00	180,7	255	7511	8281	6300	67900	113200	32,84	1,26	6,52	10,93

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	9,19	108,6	29,00	3403	D	IEU	47,0	48,0	1290	40940
						EU	47,0	48,0	1290	40940

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	30,49	1,26	9,07	13,16
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	29,71	1,24	9,07	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	29,99	1,47	8,99	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	29,95	1,25	9,07	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	30,24	1,48	8,99	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	30,22	1,25	9,07	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	30,51	1,49	8,99	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	30,78	1,70	8,92	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	31,03	1,89	8,85	13,12
NC 50	168,3	88,9	130,2	177,8	254	5860	8281	4937	36780	61300	30,78	1,50	8,99	13,16
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	31,05	1,70	8,92	13,16
NC 50	168,3	76,2	127,0	177,8	254	7511	8281	6300	47020	78367	31,33	1,91	8,85	13,16
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	51580	85967	31,55	2,10	8,79	13,16
5 1/2 FH	177,8	95,3	130,2	203,2	254	7673	7529	6443	51170	85286	31,55	2,08	9,07	13,33
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	51170	85286	31,87	2,08	8,99	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	32,17	2,08	8,92	13,33
5 1/2 FH	184,2	88,9	130,2	203,2	254	8591	9334	7203	58965	98274	32,52	2,40	8,99	13,44
5 1/2 FH	184,2	82,6	130,2	203,2	254	9446	9334	7910	64035	106725	32,82	2,61	8,92	13,44
BSCO TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	39,11	1,58	9,07	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	30,39	2,00	8,99	13,08
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	30,90	2,39	8,92	13,12
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	31,16	2,74	8,85	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4177	39100	65200	30,50	1,59	9,07	13,16
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	30,81	2,02	8,99	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	31,11	2,40	8,92	13,16
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	67900	113200	31,37	2,77	8,85	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	34,37	2,92	9,07	13,33
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,20	3,64	8,99	13,44
BSCO TDS 178-102	177,8	101,6	130,2	180,7	255	6690	7529	5634	61020	102700	31,76	2,51	9,25	13,33

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	9,19	108,6	29,00	3403	E	IEU	68,7	65,5	1759	55822
						EU	68,7	65,5	1759	55822

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	30,49	0,92	9,07	13,16
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	29,71	0,91	9,07	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	29,99	1,08	8,99	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	29,95	0,92	9,07	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	30,24	1,09	8,99	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	30,22	0,92	9,07	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	30,51	1,09	8,99	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	30,78	1,25	8,92	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	31,03	1,38	8,85	13,12
NC 50	168,3	88,9	130,2	177,8	254	5860	8281	4937	36780	61300	30,78	1,10	8,99	13,16
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	31,05	1,25	8,92	13,16
NC 50	168,3	76,2	127,0	177,8	254	7511	8281	6300	47020	78367	31,33	1,40	8,85	13,16
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	51580	85967	31,55	1,54	8,79	13,16
5 1/2 FH	177,8	95,3	130,2	177,8	254	7673	7529	6443	51170	85286	31,55	1,53	9,07	13,33
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	51170	85286	31,87	1,53	8,99	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	32,17	1,53	8,92	13,33
5 1/2 FH	184,2	88,9	130,2	203,2	254	8591	9334	7203	58965	98274	32,52	1,76	8,99	13,44
5 1/2 FH	184,2	82,6	130,2	203,2	254	9446	9334	7910	64035	106725	32,82	1,91	8,92	13,44
BSCO TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	39,11	1,16	9,07	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	30,39	1,47	8,99	13,08
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	30,90	1,76	8,92	13,12
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	31,16	2,01	8,85	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4177	39100	65200	30,50	1,17	9,07	13,16
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	30,81	1,48	8,99	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	31,11	1,76	8,92	13,16
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	67900	113200	31,37	2,03	8,85	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	34,37	2,14	9,07	13,33
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,20	2,67	8,99	13,44
BSCO TDS 178-102	177,8	101,6	130,2	180,7	255	6690	7529	5634	61020	102700	31,76	1,84	9,25	13,33

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	9,19	108,6	29,00	3403	X	IEU	82,9	83,0	2229	70708
						EU	82,9	83,0	2229	70708

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 50	168,3	88,9	130,2	177,8	254	5864	8281	4937	37600	62700	31,07	0,89	8,99	13,16
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	30,00	0,72	9,07	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	30,28	0,85	8,99	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	30,25	0,72	9,07	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	30,54	0,86	8,99	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	30,51	0,73	9,07	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	30,80	0,86	8,99	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	31,07	0,99	8,92	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	31,32	1,09	8,85	13,12
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	30,78	0,73	9,07	13,16
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	31,35	0,99	8,92	13,16
NC 50	168,3	76,2	127,0	177,8	254	7511	8281	6300	47020	78367	31,62	1,11	8,85	13,16
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	51580	85967	31,83	1,22	8,79	13,16
5 1/2 FH	177,8	95,3	130,2	177,8	254	7673	7529	6443	51170	85286	31,85	1,21	9,07	13,33
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	51170	85286	32,16	1,21	8,99	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	32,46	1,21	8,92	13,33
5 1/2 FH	184,2	88,9	130,2	203,2	254	8591	9334	7203	58965	98274	32,81	1,39	8,99	13,44
5 1/2 FH	184,2	82,6	130,2	203,2	254	9446	9334	7910	64035	106725	33,11	1,51	8,92	13,44
TMK TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	39,11	0,92	9,07	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	30,73	1,16	8,99	13,08
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	31,23	1,39	8,92	13,12
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	31,50	1,58	8,85	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4177	39100	65200	30,50	0,92	9,07	13,16
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	30,84	1,17	8,99	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	31,58	1,39	8,92	13,16
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	67900	113200	31,85	1,60	8,85	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	34,64	1,69	9,07	13,33
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,47	2,11	8,99	13,44
BSCO TDS 178-102	177,8	101,6	130,2	180,7	255	6690	7529	5634	61020	102700	31,76	1,45	9,25	13,16

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Mkp
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	9,19	108,6	29,00	3403	G	IEU	89,6	91,7	2464	78151

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	31,35	0,89	8,92	13,16
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	30,00	0,65	9,07	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	30,28	0,77	8,99	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	30,25	0,65	9,07	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	30,54	0,78	8,99	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	30,51	0,66	9,07	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	30,80	0,78	8,99	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	31,07	0,89	8,92	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	31,32	0,99	8,85	13,12
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	30,78	0,66	9,07	13,16
NC 50	168,3	88,9	130,2	177,8	254	5860	8281	4937	36780	61300	31,08	0,78	8,99	13,16
NC 50	168,3	76,2	127,0	177,8	254	7511	8281	6300	47020	78367	31,62	1,00	8,85	13,16
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	51600	86000	31,83	1,10	8,79	13,16
5 1/2 FH	177,8	95,3	130,2	177,8	254	7673	7529	6443	51170	85286	31,85	1,09	9,07	13,33
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	51170	85286	32,16	1,09	8,99	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	32,46	1,09	8,92	13,33
5 1/2 FH	184,2	88,9	130,2	203,2	254	8591	9334	7203	58965	98274	32,80	1,26	8,99	13,44
5 1/2 FH	184,2	82,6	130,2	203,2	254	9446	9334	7910	64035	106725	33,11	1,37	8,92	13,44
BSCO TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	30,42	0,83	9,07	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	30,73	1,05	8,99	13,08
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	31,23	1,25	8,92	13,12
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	31,50	1,43	8,85	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4177	39100	65200	30,76	0,83	9,07	13,16
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	31,14	1,06	8,99	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	31,58	1,26	8,92	13,16
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	67900	113200	31,58	1,45	8,85	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	34,59	1,53	9,07	13,16
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,48	1,91	8,99	13,44

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	9,19	108,6	29,00	3403	S	IEU	108,1	117,9	3165	100480

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	51600	86000	31,83	0,86	8,79	13,16
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	30,00	0,51	9,07	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	30,28	0,60	8,99	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	30,25	0,51	9,07	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	30,54	0,60	8,99	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	30,51	0,51	9,07	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	30,80	0,61	8,99	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	31,07	0,69	8,92	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	31,32	0,77	8,85	13,12
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	30,78	0,51	9,07	13,16
NC 50	168,3	88,9	130,2	177,8	254	5860	8281	4937	36780	61300	31,08	0,61	8,99	13,16
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	31,35	0,69	8,92	13,16
NC 50	168,3	76,2	130,2	177,8	254	7511	8281	6300	48100	80200	31,60	0,80	8,85	13,16
5 1/2 FH	177,8	95,3	130,2	203,2	254	7673	7529	6443	51170	85286	31,84	0,85	9,07	13,33
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	51170	85286	32,16	0,85	8,99	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	32,46	0,85	8,92	13,33
5 1/2 FH	184,2	82,6	130,2	203,2	254	9446	9334	7910	64035	106725	33,11	1,06	8,92	13,44
5 1/2 FH	184,2	88,9	130,2	203,2	254	8591	9334	7203	58900	98274	32,80	0,98	8,99	13,44
BSCO TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	30,42	0,64	9,07	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	30,73	0,82	8,99	13,08
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	31,14	0,82	8,99	13,16
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	31,37	0,98	8,96	13,12
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	31,64	1,11	8,85	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4177	39100	65200	30,90	0,65	9,07	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	31,58	0,98	8,96	13,16
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	67900	113200	3,00	1,13	8,85	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	31,85	1,19	9,07	13,33
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	32,98	1,48	8,99	13,44

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Mкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	12,7	101,6	38,1	4560	D	IEU	68,2	65,6	1728	51964
						EU	68,2	65,6	1728	51964

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 50	168,3	88,9	130,2	177,8	254	5864	8281	4937	37600	62700	39,48	1,21	7,94	13,16
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	38,42	0,98	8,02	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	38,70	1,16	7,94	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	38,66	0,98	8,02	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	38,95	1,17	7,94	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	38,92	0,99	8,02	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	39,21	1,17	7,94	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	39,48	1,34	7,87	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	39,73	1,49	7,8	13,12
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	39,19	0,99	8,02	13,16
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	39,75	1,34	7,87	13,16
NC 50	168,3	76,2	130,2	177,8	254	7511	8281	6300	48100	80200	40,01	1,54	7,8	13,16
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	51600	86000	40,24	1,65	7,74	13,16
5 1/2 FH	177,8	95,3	130,2	203,2	254	7673	7529	6443	51170	85286	40,22	1,64	8,02	13,33
5 1/2 FH	177,8	88,9	130,2	177,8	254	8591	7529	7203	51170	85286	40,33	1,64	7,94	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	40,83	1,64	7,87	13,33
5 1/2 FH	184,2	88,9	130,2	203,2	254	8591	9334	7203	58965	98274	41,17	1,89	7,94	13,44
5 1/2 FH	184,2	82,6	130,2	203,2	254	9446	9334	7910	64035	106725	41,48	2,05	7,87	13,44
BSCO TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	38,96	1,25	8,02	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	39,27	1,58	7,94	13,08
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	39,77	1,89	7,87	13,12
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	40,24	2,16	7,8	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4177	39100	65200	40,78	1,25	8,02	13,16
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	39,06	1,59	7,94	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	39,97	1,89	7,87	13,16
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	67900	113200	40,24	2,18	7,8	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	40,78	2,30	8,02	13,33
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	41,61	2,87	7,94	13,44
BSCO TDS 178-102	177,8	101,6	130,2	180,7	255	6690	7529	5634	61020	102700	40,44	1,98	8,18	13,33

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Mkp
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	12,7	101,6	38,1	4560	E	IEU	93,1	90,5	2358	70861
						EU	93,1	90,5	2358	70861

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 50	168,3	88,9	130,2	177,8	254	5864	8281	4937	37600	62700	39,48	0,88	7,94	13,16
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	38,42	0,72	8,02	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	38,70	0,85	7,94	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	38,66	0,72	8,02	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	38,95	0,85	7,94	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	38,92	0,72	8,02	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	39,21	0,86	7,94	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	39,48	0,98	7,87	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	39,73	1,09	7,8	13,12
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	39,19	0,73	8,02	13,16
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	39,75	0,98	7,87	13,16
NC 50	168,3	76,2	130,2	177,8	254	7511	8281	6300	48100	80200	40,01	1,13	7,8	13,16
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	51600	86000	40,24	1,21	7,74	13,16
5 1/2 FH	177,8	95,3	130,2	203,2	254	7673	7529	6443	51170	85286	40,22	1,20	8,02	13,33
5 1/2 FH	177,8	88,9	130,2	177,8	254	8591	7529	7203	51170	85286	40,33	1,20	7,94	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	40,83	1,20	7,87	13,33
5 1/2 FH	184,2	88,9	130,2	203,2	254	8591	9334	7203	58965	98274	41,17	1,39	7,94	13,44
5 1/2 FH	184,2	82,6	130,2	203,2	254	9446	9334	7910	64035	106725	41,48	1,51	7,87	13,44
BSCO TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	38,96	0,91	8,02	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	39,27	1,16	7,94	13,08
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	39,77	1,38	7,87	13,12
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	40,24	1,58	7,8	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4177	39100	65200	40,78	0,92	8,02	13,16
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	39,06	1,17	7,94	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	39,97	1,39	7,87	13,16
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	67900	113200	40,24	1,60	7,8	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	40,78	1,69	8,02	13,33
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	41,61	2,10	7,94	13,44
BSCO TDS 178-102	177,8	101,6	130,2	180,7	255	6690	7529	5634	61020	102700	40,44	1,45	8,18	13,16

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Qr	Mкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	12,7	101,6	38,1	4560	X	IEU	117,9	114,6	2987	89757
						EU	117,9	114,6	2987	89757

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 50	168,3	76,2	130,2	177,8	254	7511	8281	6300	48100	80200	40,28	0,89	7,8	13,16
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	38,69	0,57	8,02	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	38,98	0,67	7,94	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	38,94	0,57	8,02	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	39,22	0,67	7,94	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	39,20	0,57	8,02	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	39,49	0,68	7,94	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	39,75	0,78	7,87	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	40,00	0,86	7,8	13,12
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	39,46	0,57	8,02	13,16
NC 50	168,3	88,9	130,2	177,8	254	5864	8281	4937	37600	62700	39,75	0,70	7,94	13,16
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	40,03	0,78	7,87	13,16
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	51600	86000	40,51	0,96	7,74	13,16
5 1/2 FH	177,8	95,3	130,2	203,2	254	7673	7529	6443	51170	85286	40,49	0,95	8,02	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	41,10	0,95	7,87	13,33
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	51170	85286	40,81	0,95	7,94	13,33
5 1/2 FH	184,15	88,9	144,5	203,2	254	8590	9330	7203	58900	98270	41,38	1,09	7,94	13,44
5 1/2 FH	184,15	82,55	144,5	203,2	254	9440	9330	7910	64035	106725	41,66	1,19	7,87	13,44
BSCO TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	38,96	0,72	8,02	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	39,27	0,91	7,94	13,08
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	39,77	1,09	7,87	13,12
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	40,04	1,25	7,8	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4177	39100	65200	39,54	0,73	8,02	13,16
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	39,92	0,92	7,94	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	40,22	1,09	7,87	13,16
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	61100	113200	40,36	1,26	7,8	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	34,77	1,33	8,02	13,33
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,54	1,66	7,94	13,44
BSCO TDS 178-102	177,8	101,6	130,2	180,7	255	6690	7529	5634	61020	102700	40,44	1,14	8,18	13,33

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	12,7	101,6	38,1	4560	G	IEU	130,3	126,7	3301	99205

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	52800	88000	40,51	0,89	7,74	13,16
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	38,69	0,51	8,02	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	38,98	0,61	7,94	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	38,94	0,51	8,02	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	39,22	0,61	7,94	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	39,20	0,52	8,02	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	39,49	0,61	7,94	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	39,75	0,70	7,87	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	40,00	0,78	7,8	13,12
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	39,46	0,52	8,02	13,16
NC 50	168,3	88,9	130,2	177,8	254	5864	8281	4937	37600	62700	39,75	0,63	7,94	13,16
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	40,03	0,70	7,87	13,16
NC 50	168,3	76,2	130,2	177,8	254	7511	8281	6300	48100	80200	40,28	0,81	7,8	13,16
5 1/2 FH	177,8	95,3	130,2	203,2	254	7673	7529	6443	51170	85286	40,49	0,86	8,02	13,33
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	51170	85286	40,81	0,86	7,94	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	41,10	0,86	7,87	13,33
5 1/2 FH	184,2	88,9	130,2	177,8	254	8591	9334	7203	58965	98274	41,21	0,99	7,94	13,44
5 1/2 FH	184,15	82,55	144,5	203,2	254	9440	9330	7910	64035	106700	41,66	1,08	7,87	13,44
BSCO TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	38,96	0,65	8,02	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	39,27	0,83	7,94	13,08
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	40,10	0,99	7,87	13,12
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	40,37	1,13	7,8	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4177	39100	65200	39,54	0,66	8,02	13,16
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	39,92	0,83	7,94	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	40,38	0,99	7,87	13,16
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	67900	113200	40,58	1,14	7,8	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	34,77	1,21	8,02	13,33
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,54	1,50	7,94	13,44

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
127,0	12,7	101,6	38,1	4560	S	IEU	167,5	162,9	4241	127549

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
5 1/2 FH	184,2	82,6	130,2	203,2	254	9446	9334	7910	64035	106725	41,75	0,84	7,87	13,44
NC 50	158,8	95,3	130,2	177,8	254	4945	5835	4177	30495	50822	38,69	0,40	8,02	13,04
NC 50	158,8	88,9	130,2	177,8	254	5864	5835	4937	36200	60350	38,98	0,47	7,94	13,04
NC 50	161,9	95,3	130,2	177,8	254	4945	6635	4177	30650	51082	38,94	0,40	8,02	13,08
NC 50	161,9	88,9	130,2	177,8	254	5864	6635	4937	36350	60568	39,22	0,47	7,94	13,08
NC 50	165,1	95,3	130,2	177,8	254	6719	6635	4177	30805	51342	39,20	0,40	8,02	13,12
NC 50	165,1	88,9	130,2	177,8	254	5864	7450	4937	36525	60876	39,49	0,48	7,94	13,12
NC 50	165,1	82,6	130,2	177,8	254	6719	7450	5645	41850	69753	39,75	0,55	7,87	13,12
NC 50	165,1	76,2	130,2	177,8	254	7511	7450	6300	46570	77261	40,00	0,61	7,8	13,12
NC 50	168,3	95,3	130,2	177,8	254	4945	8281	4177	30950	51570	39,46	0,40	8,02	13,16
NC 50	168,3	88,9	130,2	177,8	254	5864	8281	4937	37600	62700	39,75	0,49	7,94	13,16
NC 50	168,3	82,6	130,2	177,8	254	6719	8281	5645	41850	69750	40,03	0,55	7,87	13,16
NC 50	168,3	76,2	130,2	177,8	254	7511	8281	6300	48100	80200	40,28	0,63	7,8	13,16
NC 50	168,3	69,9	130,2	177,8	254	8239	8281	6902	51600	86000	40,51	0,67	7,74	13,16
5 1/2 FH	177,8	95,3	130,2	203,2	254	7673	7529	6443	51170	85286	40,49	0,67	8,02	13,33
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	51170	85286	40,81	0,67	7,94	13,33
5 1/2 FH	177,8	82,6	130,2	203,2	254	9446	7529	7910	51170	85286	41,10	0,67	7,87	13,33
5 1/2 FH	184,15	88,9	144,5	203,2	254	8590	9330	7203	58965	98274	41,38	0,77	7,94	13,44
BSCO TDS 162-95-2	161,9	95,3	130,2	180,7	255	4945	6635	4177	38800	64700	39,21	0,51	8,02	13,08
BSCO TDS 162-89-2	161,9	88,9	130,2	180,7	255	5864	6635	4937	49200	82000	39,52	0,64	7,94	13,08
BSCO TDS 165-83	165,1	82,6	130,2	180,7	255	6719	7450	5645	58800	98000	40,10	0,77	7,87	13,12
BSCO TDSA 168-95-2	168,3	95,3	130,2	180,7	255	4945	8281	4179	39100	65200	39,54	0,51	8,02	13,16
BSCO TDSA 168-89-2	168,3	88,9	130,2	180,7	255	5864	8281	4937	49600	82700	39,92	0,65	7,94	13,16
BSCO TDS 165-76	165,1	76,2	130,2	180,7	255	7511	7450	6300	67200	112000	40,31	0,88	7,84	13,12
BSCO TDSA 168-76-2	168,3	76,2	130,2	180,7	255	7511	8281	6300	67900	113200	40,36	0,89	7,84	13,16
BSCO TDSA 168-83	168,3	82,6	130,2	180,7	255	6719	8281	5645	58900	98200	31,65	0,77	7,87	13,16
BSCO TDSA 178-95-1	177,8	95,3	130,18	180,7	255	7673	7529	6443	71600	119600	34,77	0,94	8,02	13,33
BSCO TDSA 184-89-1	184,15	88,9	144,5	211,1	255	8590	9330	7209	89300	148900	35,54	1,17	7,94	13,44

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
139,7	9,17	121,4	32,6	3760	D	IEU	39,2	43,5	1424	50393
					E	IEU	58,0	59,4	1943	68742
					X	IEU	69,1	75,2	2462	87091

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
5 1/2 FH	177,8	101,6	144,5	203,2	254	6690	7529	5631	45500	75835	33,93	1,50	11,25	15,85
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	51171	85286	34,25	1,69	11,16	15,85
5 1/2 FH	177,8	88,9	144,5	203,2	254	8591	7529	7203	51171	85286	34,55	1,69	11,08	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	51171	85286	34,83	1,69	10,54	15,85
5 1/2 FH	184,2	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	34,56	1,50	11,25	15,95
5 1/2 FH	184,2	95,3	144,5	203,2	254	7673	9330	6443	52660	87768	34,89	1,74	10,69	15,95
5 1/2 FH	184,2	88,9	144,5	203,2	254	8591	9330	7203	58900	98270	35,2	1,95	11,08	15,95
5 1/2 FH	184,2	82,6	144,5	203,2	254	9446	9330	7910	64035	106700	35,48	2,12	10,54	15,95
BSCO TDS 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5631	61600	102700	34,2	2,04	11,25	15,85
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	34,54	2,19	10,69	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,37	2,95	11,08	15,95
5 1/2 FH	177,8	101,6	144,5	203,2	254	6690	7529	5631	45500	75835	33,93	1,10	11,25	15,85
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	51171	85286	34,25	1,24	11,16	15,85
5 1/2 FH	177,8	88,9	144,5	203,2	254	8591	7529	7203	51171	85286	34,55	1,24	11,08	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	51171	85286	34,83	1,24	10,54	15,85
5 1/2 FH	184,2	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	34,56	1,10	11,25	15,95
5 1/2 FH	184,2	95,3	144,5	203,2	254	7673	9330	6443	52660	87768	34,89	1,28	10,69	15,95
5 1/2 FH	184,2	88,9	144,5	203,2	254	8591	9330	7203	58900	98270	35,2	1,43	11,08	15,95
5 1/2 FH	184,2	82,6	144,5	203,2	254	9446	9330	7910	64035	106700	35,48	1,55	10,54	15,95
BSCO TDS 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5631	61600	102700	34,2	1,49	11,25	15,85
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	34,54	1,61	10,69	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,37	2,17	11,08	15,95
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	52620	87700	34,63	1,01	11,16	15,85
5 1/2 FH	177,8	101,6	144,5	203,2	254	6691	7529	5631	45500	75835	34,3	0,87	11,25	15,85
5 1/2 FH	177,8	88,9	144,5	203,2	254	8591	7529	7203	51171	85286	34,93	0,98	11,08	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	51171	85286	35,2	0,98	10,54	15,85
5 1/2 FH	184,2	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	34,93	0,87	11,25	15,95
5 1/2 FH	184,2	95,3	144,5	203,2	254	7673	9330	6443	52660	87768	35,26	1,01	10,69	15,95
5 1/2 FH	184,2	88,9	144,5	203,2	254	8591	9330	7203	58900	98270	35,57	1,13	11,08	15,95
5 1/2 FH	184,2	82,6	144,5	203,2	254	9446	9330	7910	64035	106700	35,85	1,23	10,54	15,95
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	35,42	1,27	11,16	15,85
BSCO TDSA 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5631	61600	102700	34,55	1,18	11,25	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,72	1,71	11,08	15,95

¹ – internal volume per pipe length unit² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
139,7	9,17	121,4	32,6	3760	G	IEU	74,1	83,2	2721	96266
					S	IEU	87,3	106,8	3495	123656

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L/m	L/m
5 1/2 FH	184,15	88,9	144,5	203,2	254	8591	9330	7203	64035	98247	35,56	1,02	11,08	15,95
5 1/2 FH	177,8	101,6	144,5	203,2	254	6691	7529	5631	45500	75835	34,3	0,79	11,25	15,85
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	51171	85286	34,63	0,89	11,16	15,85
5 1/2 FH	177,8	88,9	144,5	203,2	254	8591	7529	7203	51171	85286	34,93	0,89	11,08	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	51171	85286	35,2	0,89	10,54	15,85
5 1/2 FH	184,2	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	34,93	0,79	11,25	15,95
5 1/2 FH	184,2	95,3	144,5	203,2	254	7673	9330	6443	52660	87768	35,85	0,91	10,69	15,95
5 1/2 FH	184,15	82,55	144,5	203,2	254	9440	9330	7910	64035	106700	35,85	1,11	10,61	15,95
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	35,42	1,15	11,16	15,85
BSCO TDSA 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5631	61600	102700	31,85	1,07	11,25	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	36,07	1,55	11,08	15,95
5 1/2 FH	177,8	101,6	144,5	203,2	254	6691	7529	5631	45500	75835	34,3	0,61	11,25	15,85
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	51171	85286	34,63	0,69	11,16	15,85
5 1/2 FH	177,8	88,9	144,5	203,2	254	8591	7529	7203	51171	85286	34,93	0,69	11,08	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	51171	85286	35,2	0,69	10,54	15,85
5 1/2 FH	184,2	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	34,93	0,61	11,25	15,95
5 1/2 FH	184,2	95,3	144,5	203,2	254	7673	9330	6443	52660	87768	35,57	0,71	10,69	15,95
5 1/2 FH	184,2	88,9	144,5	203,2	254	8591	9330	7203	58900	98270	35,85	0,79	11,08	15,95
5 1/2 FH	184,15	82,55	144,5	203,2	254	9440	9330	7910	64035	106700	35,85	0,86	10,61	15,95
BSCO TDSA 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5631	61600	102700	34,55	0,83	11,25	15,85
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	34,89	0,89	11,16	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,72	1,20	11,08	15,95

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	M _{KP}
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
139,7	10,54	118,6	36,8	4274	D	IEU	52,9	50	1620	56213
					E	IEU	72,1	68,3	2210	76682
					X	IEU	89,1	86,5	2800	97150

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
5 1/2 FH	177,8	101,6	144,5	203,2	254	6690	7529	5631	45500	75835	37,76	1,35	10,78	15,85
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	51171	85286	38,08	1,52	10,69	15,85
5 1/2 FH	177,8	88,9	144,5	203,2	254	8591	7529	7203	51171	85286	38,38	1,52	10,61	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	51171	85286	38,66	1,52	10,54	15,85
5 1/2 FH	184,2	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	38,38	1,35	10,78	15,95
5 1/2 FH	184,2	95,3	144,5	203,2	254	7673	9330	6443	52660	87768	38,71	1,56	10,69	15,95
5 1/2 FH	184,2	88,9	144,5	203,2	254	8591	9330	7203	58900	98270	39,02	1,75	10,61	15,95
5 1/2 FH	184,2	82,6	144,5	203,2	254	9446	9330	7910	64035	106700	39,3	1,90	10,54	15,95
BSCO TDS 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5631	61600	102700	38,02	1,83	10,78	15,85
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	38,36	1,97	10,69	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	39,19	2,65	10,61	15,95
5 1/2 FH	177,8	101,6	144,5	203,2	254	6690	7529	5631	45500	75835	37,76	0,99	10,78	15,85
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	51171	85286	38,08	1,11	10,69	15,85
5 1/2 FH	177,8	88,9	144,5	203,2	254	8591	7529	7203	51171	85286	38,38	1,11	10,61	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	51171	85286	38,66	1,11	10,54	15,85
5 1/2 FH	184,2	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	38,38	0,99	10,78	15,95
5 1/2 FH	184,2	95,3	144,5	203,2	254	7673	9330	6443	52660	87768	38,71	1,14	10,69	15,95
5 1/2 FH	184,2	88,9	144,5	203,2	254	8591	9330	7203	58900	98270	39,02	1,28	10,61	15,95
5 1/2 FH	184,2	82,6	144,5	203,2	254	9446	9330	7910	64035	106700	39,3	1,39	10,54	15,95
BSCO TDS 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5631	61600	102700	38,02	1,34	10,78	15,85
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	38,36	1,44	10,69	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	39,19	1,94	10,61	15,95
5 1/2 FH	184,15	88,9	144,5	203,2	254	8590	9330	7203	58900	98270	39,35	1,01	10,61	15,95
5 1/2 FH	177,8	101,6	144,5	203,2	254	6691	7529	5631	45500	75835	38,09	0,78	10,78	15,85
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	51171	85286	38,41	0,88	10,69	15,85
5 1/2 FH	177,8	88,9	144,5	203,2	254	8591	7529	7203	51171	85286	38,71	0,88	10,61	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	51171	85286	38,99	0,88	10,54	15,85
5 1/2 FH	184,15	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	38,71	0,78	10,78	15,95
5 1/2 FH	184,15	95,25	144,5	203,2	254	7673	9330	6443	52660	87768	39,04	0,90	10,69	15,95
5 1/2 FH	184,15	82,55	144,5	203,2	254	9440	9330	7910	64035	106700	39,64	1,10	10,61	15,95
BSCO TDSA 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5634	61600	102700	38,34	1,06	10,78	15,85
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	38,95	1,14	10,69	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,98	1,53	10,61	15,95

¹ – internal volume per pipe length unit² – external volume per pipe length unit

■ – combination according to API 7G



Dimensions of pipe bodies are referenced per API Spec 5DP and GOST R 54383; Performance Properties of drill pipe bodies are calculated per API 7G AD1										
Properties of drill pipe bodies										
OD	Wall thickness	ID	Nominal weight	Pipe cross-sectional area	Grade	Type upset	Performance properties of drill pipe bodies (maximum allowed)			
							External pressure	Internal pressure	Tensile strength	Torsional strength
Dp	t	dp	mpe	A			Pc	Pi	Q _T	Мкр
mm	mm	mm	kg /m	mm ²			MPa	MPa	kN	Nm
139,7	10,54	118,6	36,8	4274	G	IEU	96,6	95,6	3095	107384
					S	IEU	117,2	122,8	3975	137938

* – connection ID may be changed at the purchaser's request (applicable for tool joints per API standard)

** – Tool Joint length is made along the outer surface. The pin and box length may be increased at the purchaser's request

*** – The makeup torque shall equal 60% of the maximum allowed tool joint torque

**** – calculations are made for 12.2 m long pipes



Performance Properties of a tool joint are calculated according to API 7G AD1														
Tool joint properties											Pipe with tool joint properties			
Connection type	Tool Joint diameters		Welded connection area OD	Tool joint length**		Critical section area		Performance properties of tool joints			Adjusted weight	Torsional ratio	Capacity ¹	Total volume ²
	OD	ID		Pin	Box	Pin	Box	Maximum allowed tension load	Makeup torque***	Maximum allowed torque				
	D	d*	Dte	Lpb	Lb	Ap	Ab	Tmax						
	mm	mm	mm	mm	mm	mm ²	mm ²	kN	Nm	Nm	kg /m	-	L /m	L /m
5 1/2 FH	184,15	88,9	144,5	203,2	254	8590	9330	7203	58900	98270	39,35	0,92	10,61	15,95
5 1/2 FH	177,8	101,6	144,5	203,2	254	6691	7529	5631	45500	75835	38,09	0,71	10,78	15,85
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	51171	85286	38,41	0,79	10,69	15,85
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	52400	87400	38,79	0,81	10,61	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	52440	85286	38,99	0,79	10,54	15,85
5 1/2 FH	184,2	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	38,71	0,71	10,78	15,95
5 1/2 FH	184,2	95,3	144,5	203,2	254	7673	9330	6443	52660	87768	39,04	0,82	10,69	15,95
5 1/2 FH	184,15	82,55	144,5	203,2	254	9440	9330	7910	64035	106700	39,64	0,99	10,61	15,95
BSCO TDSA 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5631	61600	102700	31,76	0,96	10,78	15,85
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	38,95	1,03	10,69	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,98	1,39	10,61	15,95
5 1/2 FH	177,8	101,6	144,5	203,2	254	6691	7529	5631	45500	75835	38,09	0,55	10,78	15,85
5 1/2 FH	177,8	95,25	144,5	203,2	254	7673	7529	6443	51171	85286	38,41	0,62	10,69	15,85
5 1/2 FH	177,8	88,9	130,2	203,2	254	8591	7529	7203	52400	87400	38,79	0,63	10,61	15,85
5 1/2 FH	177,8	82,6	144,5	203,2	254	9446	7529	7910	52440	85286	38,99	0,62	10,54	15,85
5 1/2 FH	184,2	101,6	144,5	203,2	254	6691	9330	5631	45500	75835	38,71	0,55	10,78	15,95
5 1/2 FH	184,2	95,3	144,5	203,2	254	7673	9330	6443	52660	87768	39,04	0,64	10,69	15,95
5 1/2 FH	184,15	88,9	144,5	203,2	254	8590	9330	7203	58900	98270	39,35	0,71	10,61	15,95
5 1/2 FH	184,15	82,55	144,5	203,2	254	9440	9330	7910	64035	106700	39,64	0,77	10,54	15,95
BSCO TDSA 178-102	177,8	101,6	144,5	211,1	255	6690	7529	5634	61600	102700	38,34	0,74	10,78	15,85
BSCO TDSA 178-95	177,8	95,25	144,5	211,1	255	7673	7529	6443	66300	110500	38,95	0,80	10,69	15,85
BSCO TDSA 184-89	184,15	88,9	144,5	211,1	255	8590	9330	7203	89300	148900	35,98	1,08	10,61	15,95

¹ – internal volume per pipe length unit

² – external volume per pipe length unit

■ – combination according to API 7G



6. Pipe durability

Drill pipe durability

Tool Joints, as well as drill pipe bodies are subjected to abrasive wear due to friction of the drill string against subsurface rocks. Pipes affected by abrasive wear are categorized into three Classes. Drill pipes are assigned to a Class based on the visual inspection, measurements and radiography results, and records are maintained for each inspection criteria.

The 1st Class has dimensions equal to nominal requirements of current regulatory documents. The 2nd and 3rd Classes consist of used pipes, whose defect values are not greater than those referenced in the table. If the value of wear or defect is greater than the 3rd Class value, then the pipe is considered defective and will be out of commission.

Information about the pipe transfer from one class to another is recorded into the product certificate. Technical properties of pipes of various classes are determined by comparing them with technical properties of new pipes (1st group), while considering the requirements for wall thickness: 2nd Class at 80% and 3rd Class at 62.5% from their nominal values.

Defect type	Pipe Class		
	I	II	III
Even wear of the pipe along an outer surface: wall thickness after the wear %, not less than	All pipe sizes conform to nominal values and tolerances. No defects found	80	62,5
Eccentric wear along the external surface: wall thickness after the wear %, not less than		65	55
Dents, % of OD, no more than		3	5
Collapse, % of OD, no more than		3	5
Recess, % of OD, no more than		3	5
Remaining reduction:			
% of OD reduction, no more than		3	5
Remaining expansion:			
% of OD increase, no more than		3	5
Longitudinal cuts/notches			
% of the remaining wall thickness, no more than		80	62,5
Lateral cuts:			
% of the remaining wall thickness, not less than		90	80
Cut length, % of length of pipe circumference, not less than		10	10
Wall thickness at the deepest place of the corrosion, % of the nominal, not less than		80	55

*Classification according to Drill Pipe Operation Handbook, CJSC VNIITneft, 2010



Drill pipe durability

A tool joint's Outside Diameter (OD) and Inside Diameter (ID) are major factors in determining its durability against torque. The OD determines the cross sectional area of the box's end, while the ID determines the cross sectional area of the pin end. Reduction in torque capabilities from original values is most often attributed to wear along the OD. The wear causes a reduction in OD, lessening the cross-sectional area, and in turn limiting the amount of torque that can be applied. If the limiting factor in two mating connections is the box tool joint, then OD wear will more quickly cause a reduction in torque capability. Conversely, if the pin tool joint is the limiting factor, then the OD (box) can withstand more wear before torque capabilities are negatively affected. Thus, a tool joint's durability may be increased by increasing the OD and decreasing the ID.

The classification of tool joints by material grade is largely dependant on the grade of the pipe body. Since the welding of a tool joint of a given grade can be welded on to pipe of various grades, the maximum allowed tolerance of the tool joint OD wear is affected depending on the combination.

TMK's Double Shouldered tool joints enable higher torques over API tool joints, and therefore have a larger tolerance for OD wear which prolongs the life of each tool joint.

Comparative analysis of tool joint connections

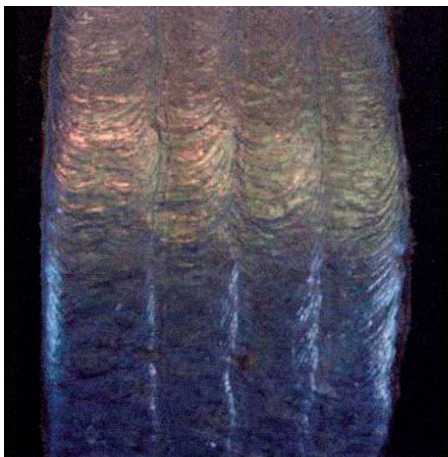
Pipe size, mm	Threaded connection		Tool Joint diameter, mm		Makeup torque	Torsional strength increase
	Type	Lock	OD	ID	Nm	%
60,3	API	NC 26	85,7	44,45	5532	+27
	BSCO	BSCO TDS	85,7	44,45	7020	
73,0	API	NC 31	104,8	50,8	10735	+31
	BSCO	BSCO TDS	104,8	50,8	14100	
88,9	API	NC 38	127	61,91	18070	+33
	BSCO	BSCO TDS	127	61,91	24120	
101,6	API	NC 40	139,7	61,91	24500	+36
	BSCO	BSCO TDS	139,7	61,91	33240	
114,3	API	NC 46	158,8	76,2	32262	+36
	BSCO	BSCO TDS	158,8	76,2	43980	
127,0	API	NC 50	161,9	88,9	36341	+35
	BSCO	BSCO TDS	161,9	88,9	49200	
139,7	API	5 1/2 FH	184,2	88,9	58960	+52
	BSCO	BSCO TDS	184,2	88,9	89340	

Note: the values are applicable to API and BSCO TDS standards connections; Identical OD and ID were selected for comparative purposes

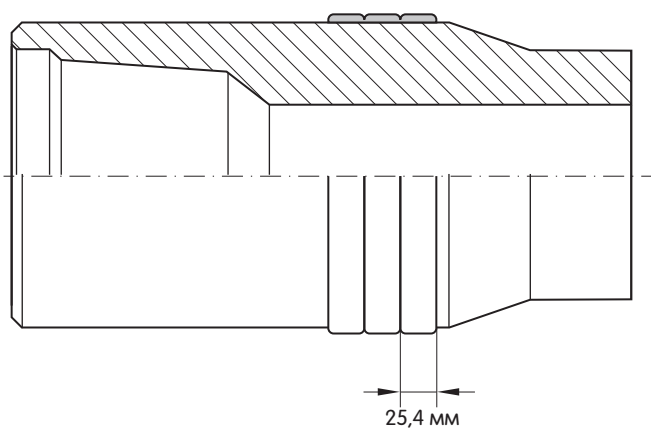


7. Hardbanding durability

Extreme operating conditions can lead to the irreparable damage of drill pipe if appropriate measures are not considered. The main cause for such destruction is cracks that form under the high stress and surface wear. These stresses can be compounded when the pipe is being operated in a corrosive environment, which can further exacerbate cracking. Due to the expense of the highly durable drill pipes, losses resulting from the defective product can be significant.



While assessing the statistical data, we can conclude that more than 60% of pipes shall be considered defective due to tool joint OD wear, while other parameters correspond to allowed specifications.

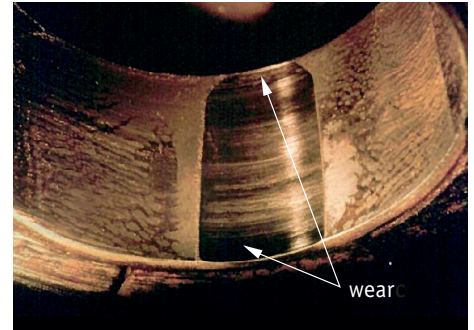


Since tool joints have a larger diameter than a the drill pipe body, they are subjected to wear, and therefore, they should have a hardbanding for their protection. As a rule, this occurs when applying three hardbanding rings as a minimum. The width of one ring shall be 25.4 mm.

Drill pipes with hardbanding on welded tool joints are designed for drilling in difficult conditions.

Main advantages of hardbanding:

- Reduces the tool joint wear while drilling with an open-hole thread.
- Prevents untimely OD wear, increasing the life of the tool joint.
- Prevents the formation of thermal cracks on tool joints, which occur due to heat from friction against the well wall during an intensive increase in well curvature.
- Allows the usage of drill pipes with welded locks that have a reduced OD.
- Reduces casing column wear, caused by friction of tool joints during rotation and tripping into the well.



Internal surface wear of pipe casing from tool joints

Hardbanding is allowed on used drill pipes, after tool joints are repaired and cleaned by an approved method. The only restricting condition to use hardbanding is to have a sufficient length for turnkey at the repaired drill pipe tool joint.

Hardbanding may be repaired in used pipes by applying new layers to a worn surface of the previously applied hardbanding.

When repairing a worn layer, applied by another manufacturer, it is recommended to check for compatibility of the new hardbanding with the previously applied one.

8. Internal coating of pipes

Drill pipes with internal polymer coating are designed to drill in difficult conditions. To select an effective coating type, it is recommended to inform the coating manufacturer of the drilling slurry content, while indicating corrosive factors, which may complicate an operation.

Internal coatings reduce the erosion of the drill pipe ID by up to 50%. In turn, this reduces the amount of pipe that a company has to scrap due to insufficient wall thickness.

Typically, a liquid coating is selected, with “first layer + upper layer” process, and 130 to 225micron thickness.

This method is widely accepted, as it significantly increases efficiency and safety of oil & gas drilling operations.

Coating Options:

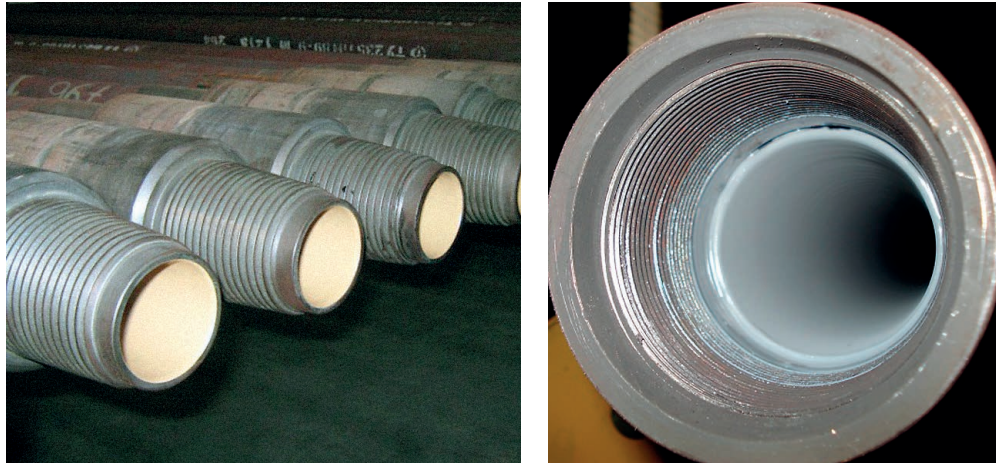
- OD Coating (thin film)
- Wear resistant inner coating
- Heat resistant and flexible inner coating
- Resistance to acidic and basic environments

Main advantages:

- Minimizes fluid turbulence which mitigates the erosion of pipe body wall
- Corrosive and abrasive wear protection of drill pipes.
- Drill pipe protection against shelf corrosion.
- Increased drill pipe fatigue life
- Minimizes the accumulation of salt in the drill pipe ID
- Allows utilization of a wider range of drilling fluids slurries with various pH values.
- Increased performance in high-pressure, high-temperature (HPHT) application.

Some coatings can be applied to protect the pipe against CO₂ and H₂S, thus reducing the likelihood of sulfide stress cracking.





Drill pipes with smooth internal coating

Coating application allows the following:

- increase the performance of drill pipes.
- use these drill pipes as process pipes for hydrochloric treatment.

Internal protective coatings can be applied to multiple types of tool joints and connections. Coatings can be applied to used drill pipe once they have gone through proper inspection and repair.

The drill pipe coating must withstand external forces without peeling, flaking and cracking in the following temperature range, as specified in technical requirements:

- -40°C — $+60^{\circ}\text{C}$ for transportation, loading/unloading, and tripping operations.
- -50°C — $+60^{\circ}\text{C}$ for storage.

The upper limit of the operational temperature value for drill pipes is subject to the type of material, used to form a special purpose coating.

