

# TECHNICAL CATALOGUE

PIPES | TUBES | FITTINGS | FLANGES

[REVISION 2]

**WE-LOCK**

**INDUSTRIAL SPECIALIST IN PROCESS PIPING**

## Types of pipes, fittings and flanges in stock

### Sizes and material types:

The below listed products are typical available from our stock in size range from 0.5" to 24".  
Larger sizes and other materials may also be available on request, but can in all cases be offered based on new production at mills.

### Material properties / certification:

Material purchased to our stock are manufactured, tested and certified in accordance to our internal specification EP-3000 which is based ASTM's and internal additional requirements. Typical modified requirements are indicated in tables below.

All products are certified to EN10204 type 3.1

Carbon steel - Type 235				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe Welded pipe	ASTM A106 ISO 3183 (API 5L)	B L245 (B) SAWL	PSL1 12, 22 for t>19mm	S6
Wrought fitting Forging/ flange	ASTM A672 ASTM A234 ASTM A105	C60, C70 WPB		S3 S4
Chemical:	C< 0.20 %; S< 0.025 %; P< 0.025 %; CE = C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15 < 0.43			
Hardness:	NACE MR-0175/ ISO 15156 compliance			

Carbon steel - Type 235LT				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe Welded pipe	ASTM A333 ASTM A671	6 CC60, CC70	12, 22 for t>19mm	S2, S7, S14
Wrought fitting Forging/ flange	ASTM A420 ASTM A350	WPL6 LF2	1	S51, S53, S59, S69 S6, S55
Chemical:	C< 0.20 %; S< 0.025 %; P< 0.025 %; (+ additional limitations for A333 gr.6) CE = C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15 < 0.43			
Hardness:	NACE MR-0175/ ISO 15156 compliance			
Impact:	27J average/ 20J single at -46 degree C, for thicknesses above 6mm			

Carbon steel - Type 360LT				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe Wrought fitting Forging/ flange	ISO 3183 (API 5L) ASTM A860 ASTM A694	L360N or Q (X52) WPHY52 F52	PSL2 Smls & welded	S53, S69 S55
Chemical:	C< 0.20% (C< 0.16% for X52); Mn = 0.90-1.60%; Si = 0.10-0.50%; S< 0.025%; P< 0.035%; Ti< 0.05%; Nb< 0.04%; Al< 0.06%; N< 0.015%; V+Nb+Ti< 0.10% CE = C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15 < 0.43			
Hardness:	NACE MR-0175/ ISO 15156 compliance			
Impact:	40J average/ 30J single at -46 degree C, for thicknesses above 6mm			

High strength, low alloyed steel - Type 4130/4140				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe Wrought fitting Forging/ flange Forging/ flange	ASTM A519 ASTM A234 ASTM A788 API 6A	AISI 4130 AISI 4130 AISI 4140 60K (AISI 4130)	Seamless  PSL 3	S2 S18
Chemical:	Pipe and fitting: S< 0.015%, P< 0.025%			
Tensile:	Pipe and fitting: Yield (0.2%) > 415MPa, UTS > 620MPa, A5 > 18% A788 forging: Yield (0.2%) > 515MPa, UTS > 690MPa, A5 > 15%			
Hardness:	Pipes, fittings and API 6A forgings: Maximum 250HV10, 237HB or 22HRC A788 forgings: 328HB or 35HRC			
Impact:	42J average/ 30J single at -30 degree C, for thicknesses above 6mm			

Austenitic Stainless steel - Type 316/316L				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe	ASTM A312	TP316/ TP316L	1, 3, 4 and 5 S, W, WX	
Welded pipe	ASTM A312	TP316/ TP316L		
	ASTM A358	316/ 316L		
Wrought fitting	ASTM A403	WP316/ WP316L		
Forging/ flange	ASTM A182	F316/ F316L		
Tube	ASTM A269	316/ 316L		
Chemical:	C< 0.035%			
Tensile:	Yield (0.2%) > 205MPa, UTS > 515MPa, A> 35%			
Hardness:	NACE MR-0175/ ISO 15156 compliance			

Austenitic Stainless steel - Type 6Mo				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe	ASTM A312	UNS S31254*	1, 3 and 5 S, W, WX	S3
Welded pipe	ASTM A358	UNS S31254*		
Wrought fitting	ASTM A403	WP S31254*		
Forging/ flange	ASTM A182	F44 (S31254)*		S56
Tube	ASTM A269	UNS S31254*		
Grades *:	UNS N08926 are acceptable in addition to the above grade			
Corrosion test:	ASTM G48 method A, 50 degree C / 24h, max 4g/m2 weight loss, no pitting			
Hardness:	NACE MR-0175/ ISO 15156 compliance			

Ferritic/Austenitic Stainless steel - Type 22Cr duplex				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe	ASTM A790	UNS S31803*	1, 3 and 5 S, W, WX	S3 S7 S56
Welded pipe	ASTM A928	UNS S31803*		
Wrought fitting	ASTM A815	UNS S31803*		
Forging/ flange	ASTM A182	F51*		
Tube	ASTM A789	UNS S31803*		
Grades *:	UNS S32205/ F60 are acceptable in addition to the above grade			
Chemical:	N = 0.14-0.20%; PREN > 34%			
Impact:	45J average/ 35J single at -46 degree C, for thicknesses above 6mm			
Corrosion test:	ASTM G48 method A, 25 degree C / 24h, max 4g/m2 weight loss, no pitting			
Hardness:	Max 290 HV10 (or 28HRC or 271HB)			
Micro:	Ferrite level 35-55% for base, 35-65% for weld areas. No phases or precipitates.			

Ferritic/Austenitic Stainless steel - Type 25Cr duplex				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe	ASTM A790	UNS S32760*	1, 3 and 5 S, W, WX	S3 S7 S56
Welded pipe	ASTM A928	UNS S32760*		
Wrought fitting	ASTM A815	UNS S32760*		
Forging/ flange	ASTM A182	F55 (S32760)*		
Tube	ASTM A789	UNS S32760*		
Grades*:	UNS S32750/F53 and UNS S32550 are acceptable in addition to the above grade			
Chemical:	PRE (Cr + 3.3xMo + 16xN) > 40.0			
Tensile:	Yield (0.2%) > 550MPa, UTS > 750MPa, A5 > 25%			
Impact:	45J average/ 35J single at -46 degree C, for thicknesses above 6mm			
Corrosion test:	ASTM G48 method A, 50 degree C / 24h, max 4g/m2 weight loss, no pitting			
Hardness:	Max 330 HV10 (or 32HRC or 301HB)			
Micro:	Ferrite level 35-55% for base, 35-65% for weld areas. No phases or precipitates.			

## TYPES OF PIPES, FITTINGS AND FLANGES IN STOCK

High strength Austenitic Stainless steel - Type Superaustenite				
Product	Standard	Grade	Class	Suppl. requirement
Welded pipe	ASTM A358	UNS S34565	1, 3	S3
Wrought fitting	ASTM A403	UNS S34566	S, WX	
Forging/ flange	ASTM A182	F49		S56
Tensile:	Yield (0.2%) > 415MPa, UTS > 795MPa			
Hardness:	Max 34HRC			
Corrosion test:	ASTM G48 method A, 50 degree C / 24h, max 4g/m2 weight loss, no pitting			

Titanium - Grade 2				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe	ASTM B861	2		
Welded pipe	ASTM B862	2		
Wrought fitting	ASTM B363	WPT2/ WPT2W		
Forging/ flange	ASTM B381	F2		
Tube	ASTM B338	2		
Grades:	Equivalent grades (GOST VT 1-0) is acceptable if complying with above standards			
Chemical:	Pipes with OD < 10" shall have O < 0.17% and A5 > 25%			
Hardness:	NACE MR-0175/ ISO 15156 compliance			

Copper alloy - Type CuNi 90/10				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe	ASTM B466	UNS C70600		
Welded pipe	ASTM B467	UNS C70600		
Wrought fitting		UNS C70600		
Forging/flange		UNS C70600		
Material purchased to our stock are modified to ASTM data sheet				
e.g: Dimensions: In accordance to respective EEMUA standards - No.144, 145, 146				

Nickel alloy - Type Inconel 625				
Product	Standard	Grade	Class	Suppl. requirement
Seamless pipe	ASTM B444	UNS N06625		
Welded pipe	ASTM B705	UNS N06625	1	
Wrought fitting	ASTM B366	UNS N06625		S3
Forging/flange	ASTM B564	UNS N06625		S5.3
Tube	ASTM B444	UNS N06625		
Material purchased to our stock are modified to ASTM data sheet, e.g: Heat treatment: All products shall be annealed				