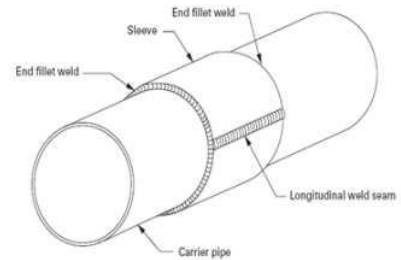




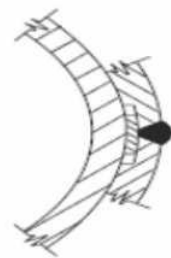
Pipeline reinforcement sleeves WA-PRS-Units

Sleeve Size (Inch)	Sleeve (DN)	Sleeve ID (mm) +5 -0	Sleeve Std. Thickness (mm)	Available Sleeve Length x Thickness (mm)	Material of Construction
4"	114.3	115.3	6.4	Length Minimum : 500 mm Maximum : 3000 mm (length Available Between 500 mm To 3000 mm In Multiple of 100 mm) Special Length / Higher Length Available on Request	Sleeve API 5L Material API 5L GR. B API 5L GR. X 42 API 5L GR. X 46 API 5L GR. X 52 API 5L GR. X 56 API 5L GR. X 60 API 5L GR. X 65 API 5L GR. X 70 ASTM MATERIAL ASTM A 516 GR.60 ASTM A 516 GR.70 ASTM A 333 GR.6 (LTSC)
6"	168.3	169.3	6.4		
8"	219.1	220.1	6.4		
10"	273.1	274.1	9.5		
12"	323.9	324.9	9.5		
14"	355.6	356.6	9.5		
16"	406.4	407.4	9.5		
18"	457.2	458.2	9.5		
20"	508	509	12.7		
22"	559	560	12.7		
24"	610	611	12.7		
26"	660.4	661.4	12.7		
28"	711.2	712.2	12.7		
30"	762	763	12.7		
32"	813	814	19.1	Thickness As per Standard Thickness in Table or As Per Design Code Asme B 31.4 / Asme B 31.8 Design Pressure of Line Pipe / As per Special Requirements	ASTM MATERIAL
34"	864	865	19.1		
36"	914	915	19.1		
38"	965	966	19.1		
40"	1016	1017	19.1		
42"	1067	1068	19.1		
44"	1117.6	1118.6	19.1		
46"	1168.4	1169.4	19.1		
48"	1219	1220	19.1		
Higher Sizes & Thicknesses Available on Request					
					Special Material Available on Request

WA-reinforcement sleeves reinforce non-leaking or damaged pipe. Repairs may be made while the pipe remains in service. Pressure must be reduced to a safe level.



Reinforcement Sleeve raw material shall be 100% UT tested. After Cold rolling process weld ends shall be 100% UT tested for discontinuity check.



Other NDT procedures on request, subjected to availability.

All material shall be Impact tested.

Backing Strip and Relief Groove

Repair sleeves are designed in accordance with Clause 404.1.2/ASME B31.4 clause 841.1.1 of ASME B 31 .8.

$$\text{Sleeve thickness } T = \frac{PD}{2SFETF} + St$$

Where,

P = Design Pressure

S = Specified minimum Yield strength

E = Longitudinal Joint factor

St = Groove thickness for backing strip

D = Outer diameter of sleeve

F = Design Factor

TF = Temperature Derating factor (only for Gas Lines)

