HSS80 Heat Shrinkable Sleeve

3-layer Girth weld field joint coatings

Description

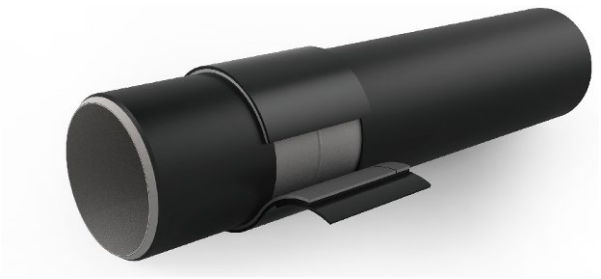
HSS80 Heat shrinkable sleeve is designed for corrosion protection of girth weld joint buried steel pipeline, especially for 3PE/ FBE factory coating pipeline.

Construction: Three-layer system

First layer: Liquid epoxy primer CP-1, solvent-free two-component

Second layer: High shear strength hot-melt copolymer adhesive

Third layer: Radiation cross-linked, high density polyethylene backing, backing with ***TIP*** (Temperature Indicator Pattern) is optional.



Features & Benefits

- Excellent multifunctional adhesive allow for lower installation pre-heat temperature and super bonding to 3LPE and FBE, offer fully resistant to shear forces induced by soil and thermal movements.
- Superior cathodic disbondment and hot water immersion resistance offers the optimum barrier long term protection against corrosion.
- Saves time & cost by lower preheat temperature, wet epoxy primer application.
- Pattern backing provides a "heating temperature indicator" for application of heat, ensures correct application heating.

Application guide	HSS 80
Standard reference	BS-EN ISO 21809-3:2016+A1:2020 14B-2 EN 12068 Class C HT80 UV NACE RP0303
Compatible line coatings	FBE, 3LPE
Soil stress restriction	None
Max operating temperature	85°C
Preheat temperature	65 - 85°C
Recommended pipe preparation	SA 2½

Ordering information

HSS type products are available:
- as cut piece (pre-cut sleeve with separate closure patch)
- as a roll (closure patches to be ordered separately)

Select sleeve width that will overlap onto the mill-applied coating by 2 inches (50 mm) minimum on each side of the weld joint.

Sleeve width(mm): 18", 20", 24", 36"
Other width (10"-36") are available, please note when make order.

Product thickness (mm)		
Adhesive	Total thickness (as supplied)	Total thickness (recovered on pipe)
1.0	1.8	2.0
1.2	2.2	2.4
1.5	2.5	2.8
1.5	2.7	3.0
1.7	3.2	3.5
Other sleeve thickness (1.4~3.5mm) are available, Please note when place order.		

Standard Ordering options

	Cut piece		* Roll form(closure patches to be ordered separately)
Example:	HSS 80-24X18/2.5	Example	HSS 80-20x100f/2.8-RL
80	Operating temperature 80°C	80	Operating temperature 80°C
24	Outside pipe diameter in inch	100f	Roll length in feet
18	Sleeve width in inch	20	Roll width in inch
/2.5	Sleeve thickness in mm	2.8	Roll thickness in mm
		-RL	Supplied in rolls

Sleeve cut lengths and appropriate closure patch widths depend on the pipe size and product construction, see application table.
For proper product installation, see installation instruction.
HSS type products are installed with CP-1 Epoxy primer, epoxy primers are ordered separately.
For more ordering information on epoxy primers see application tables.

Product properties:

Physical Properties	Test Method	HSS80 Typical Value
PE backing		
Tensile strength at break	ASTM D-638/NACE PRO0303	22 MPa (3190Psi)
Elongation to break	ASTM D-638/NACE PRO0303	600%
Hardness Shore D	ASTM D 2240	57
Dielectric Strength	ASTM D149	35KV/mm
Moisture absorption	ASTM D570	0.03%
Epoxy (CP-1)		
Solid content		≥99.5%
Pull off adhesion strength of epoxy to steel at 23℃	ASTM D4541	20MPa(2900Psi)
Adhesive		
Ring and Ball Softening point of adhesive	ASTM E-28	122°C
Lap shear strength @23°C @80°C	ISO 21809 -3 Annex J at 10 mm/min ASTM D1002	4.3MPa 0.38 MPa
Installed Sleeve		
Holiday detection at 5Kv/mm+5Kv	ISO 21809-3 Annex C	No Holidays
Impact resistance (holiday detection at 5 kV/mm +5 kV)	ISO 21809-3 Annex D EN12068 C HT 80 UV	> 7 J/mm > 15 J pass
Indentation Resistance (holiday detection at 5 kV/mm +5 kV, Pressure Residual thickness	ISO 21809-3 Annex E EN12068 C HT 80 UV	10 N/mm^2 >0.6mm
Cathodic Disbondment 28 days @23°C @80°C	ISO 21809-3 Annex G EN12068 C HT 80 UV	3 mm 8.5 mm
Peel strength at 10 mm/min to pipe surface and to polyolefin plant coating @ 23°C @ 80°C	ISO 21809 -3 Annex H EN12068 C HT 80 UV	 12 N/mm 0.7 N/mm
Peel strength at 10 mm/min to pipe surface and to polyolefin plant coating after 100-day hot-water immersion test at @ 80°C	ISO 21809 -3 Annex H & I	0.87
Thermal Ageing Resistance (aged at Tmax + 20 °C) — Elongation at break E_{100}/E_{70}) — Peel strength to pipe surface(P_{100}/P_{70})	ISO 21809-3, Annex M EN12068 C HT 80 UV	0.91 0.88
Hot water immersion Resistance at 80°C for 120 days	ASTM D-870	no blisters or de-lamination, or water under sleeve
Soil Stress Creep Resistance of installed sleeve at 80°C	TP 206	0.06 inch after 24hrs
Ultraviolet resistance	EN12068 C HT 80 UV	Pass
Low temperature flexibility	ASTM D-2671-C	-30°C

Service Life: More than 40 years

Normal Packing: Carton (Maximum 30kg)

Storage Condition:

- To ensure maximum performance, store CHERAY POLYMER products in a dry, ventilated area.
- Keep products sealed in original cartons and avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental elements.
- Avoid prolonged storage at temperatures above 40°C or below -20°C.
- Product installation should be done in accordance with local health and safety regulations.

Shelf Life: 2 years, under correct storage condition.