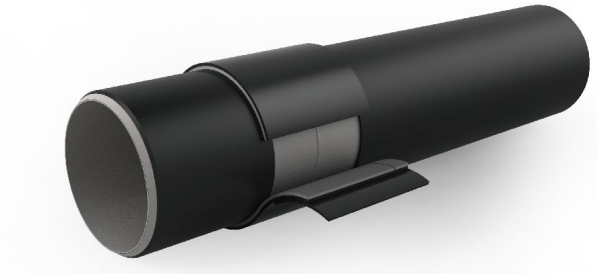
HMS 80 Mastic Heat Shrinkable Sleeve

2-layer Girth weld field joint coatings

Description



HMS 80 Mastic heat shrinkable sleeve 2-layer system are engineered for ready-to-fit assembly for the corrosion protection of field girth weld joints in water supply or gas distribution and transmission networks, especially for use in low & middle shear or low stress environments in moderate climates.

Construction: Two-layer system

First layer: Visco-elastic butyl based adhesive

Second layer: Radiation cross-linked, high density polyethylene backing with *TIP* (Temperature Indicator Pattern)

HMS80 is compatible with most commonly used steel pipe coatings and is used for offshore and onshore girth weld protection or to recoat (rehabilitate) long pipe sections and large radius bends. The installation is carried out directly on the cleaned and pre -heated pipe surface without any primer required. During installation, the heat shrinkable sleeve is wrapped around and shrunk to form a tight fit around the joint. During recovery, the adhesive softens and flows to form a perfect bond with the pipe surface providing protection against corrosion. The radiation cross-linked outer layer forms a tough barrier against mechanical damage and moisture transmission.

Features & Benefits

- Excellent visco-elastic adhesive allow for lower installation pre-heat temperature and super bonding to coating, offer fully resistant to shear forces induced by soil and thermal movements.
- Superior cathodic disbondment and offers the optimum barrier long term protection against corrosion.
- Easy field installation, saves time & cost, HMS80 can be installed quickly and easily in most environments.
- Pattern backing provides a "heating temperature indicator" for application of heat. Ensures correct application heating.
- Covers a wide range of operating temperature ratings from -45°C to 100°C, offers a solution for nearly every application.

Application guide	HMS 80	Product thickness		
Performance	EN 12068, ISO 21809-3 14A-2	Pipeline diameter (inch)	Mastic sealant (mm)	Total thickness as supplied (mm)
Compatible line coatings	PE, FBE, Coal Tar, AE	3-10	0.8	1.8
Soil stress restriction	None	12-30	1.2	2.2
Max operating temperature	80°C, For offshore applications Max. operating temperature 100°C	Above pipe diameter DN750 (30") in high shear and high stress environments, the use of HCS 100, HSS80C is recommended.		
Min preheat temperature	50 °C			
Recommended pipe preparation	St2.0 ～ St3.0 or SA2 ½			

Standard ordering options

Cut piece		* Roll form (closure patches to be ordered separately)	
Example:	HMS 80-12X18/1.8	Example	HMS 80-20x100f/2.2-RL
30	Operating temperature up to 80°C	100	Operating temperature up to 80°C
12	Outside pipe diameter in inch	100f	Roll length in feet
18	Sleeve width in inch	20	Roll width in inch
/1.8	Sleeve thickness in mm	2.2	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.

Product properties:

Physical Properties	Test Method	HMS80 Typical Value
PE backing		
Tensile strength at 23°C	NACE PRO0303/ ASTM D-638	22 MPa
Elongation to break	NACE PRO0303/ASTM D-638	600%
Adhesive		
Ring and Ball Softening point of adhesive	ASTM E-28	125°C
Installed Field Joint Coating system		
Holiday detection at 5Kv/mm+5Kv Max.15kV	ISO 21809-3 Annex C	No Holidays
Impact resistance (holiday detection at 5 kV/mm +5 kV, max. 15kV after recovery)	ISO 21809-3 Annex D	> 7 J/mm
Indentation Resistance (holiday detection at 5 kV/mm +5 kV, max.15kV after recovery) @ Max Operating Temperature Residual thickness	ISO 21809-3 Annex E	10 N/mm^2 >0.6mm
Cathodic Disbondment 28 days @23°C @ 80°C	ISO 21809-3 Annex G	3 mm 8.5 mm
Peel strength to Steel pipe surface and plant applied coating @ 23°C, 10 mm/min	ISO 21809 -3 Annex H	>1N/mm
Peel strength to Steel pipe surface and plant applied coating @ 80°C, 10mm/min	ISO 21809 -3 Annex H	0.1 N/mm
Peel strength at 10 mm/min to pipe surface and to polyolefin plant coating after 100-day hot-water immersion test at Tmax limited	ISO 21809 -3 Annex H & I	0.80
Lap shear strength at 10 mm/min @23°C @80°C	ISO 21809 -3 Annex J	0.1 Mpa 0.01 Mpa
Thermal Ageing Resistance (aged at Tmax + 20 °C) --Elongation to break E_{100}/E_{70} --Peel strength to pipe surface P_{100}/P_{70}	ISO 21809-3, Annex M	After 100 days, @ 100°C, 0.85 0.85
Ultraviolet resistance	EN12068 Class C80 UV	Pass
Low temperature flexibility	ASTM D-2671-C	-30°C

Service Life: More than 30 years

Normal Packing: Carton (Maximum 45kg).

Storage Condition:

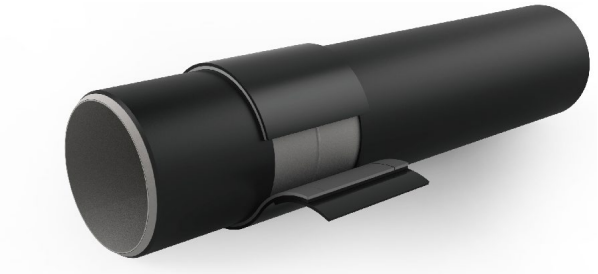
- To ensure maximum performance, store CHERAY POLYMER products in a dry, ventilated area.
- Keep products sealed in original cartons and avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental elements.
- Avoid prolonged storage at temperatures above 40°C or below -20°C.
-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

Shelf Life: 2 years, under correct storage condition.

HMS65 Mastic Heat Shrinkable Sleeve

2-layer Girth weld field joint coatings

Description



HMS65 Mastic heat shrinkable sleeve 2-layer system are engineered for ready-to-fit assembly for the corrosion protection of field girth weld joints in water supply or gas distribution and transmission networks, especially for use in low & middle shear or low stress environments in moderate climates.

Construction: Two-layer system

First layer: Low preheat middle shear strength half-rigid mastic sealant

Second layer: Radiation cross-linked, high density polyethylene backing with *TIP* (Temperature Indicator Pattern)

HMS is compatible with standard pipe coatings, can also be used for coating bare, replacement pipe sections and large radius bends. The system is designed to be applied with minimum preheating and is ideal for large diameter water pipe.

(Above pipe diameter DN750 (30") in high shear and high stress environments, the use of HCS 65, HSS 60/80 is recommended).

Features & Benefits

- Excellent mastic adhesive allow for lower installation pre-heat temperature and super bonding to coating, offer fully resistant to shear forces induced by soil and thermal movements.
- Superior cathodic disbondment and offers the optimum barrier long term protection against corrosion.
- Easy field installation, saves time & cost, HMS can be installed quickly and easily in most environments.
- Pattern backing provides a "heating temperature indicator" for application of heat. Ensures correct application heating.
- Covers a wide range of operating temperature ratings from -45°C to 65°C, offers a solution for nearly every application.

Application guide	HMS 65	Product thickness		
Performance	EN 12068 Class C50 ISO21809-3 14A-1	Pipeline diameter (inch)	Mastic sealant (mm)	Total thickness as supplied (mm)
Compatible line coatings	**PE, FBE, Coal Tar, AE**	3-10	0.8	1.8
Soil stress restriction	None	12-30	1.2	2.2
Max operating temperature	70°C	Above pipe diameter DN750 (30") in high shear and high stress environments, the use of HCS 65, HSS 60/80 is recommended.		
Min preheat temperature	50°C			
Recommended pipe preparation	St2.0 ～ St3.0			

Standard ordering options

Cut piece		* Roll form(closure patches to be ordered separately)	
Example:	HMS65-12X18/1.8	Example	HMS 65-20x100f/2.2-RL
65	Operating temperature up to 80°C	65	Operating temperature up to 80°C
12	Outside pipe diameter in inch	100f	Roll length in feet
18	Sleeve width in inch	20	Roll width in inch
/1.8	Sleeve thickness in mm	2.2	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.

Product properties:

Physical Properties	Test Method	HMS65 Typical Value
PE backing		
Tensile strength at 23°C	NACE PRO0303/ ASTM D-638	22 Mpa
Elongation to break	NACE PRO0303/ASTM D-638	600%
Adhesive		
Ring and Ball Softening point of adhesive	ASTM E-28	95°C
Installed Field Joint Coating system		
Holiday detection at 5Kv/mm+5Kv Max.15kV	ISO 21809-3 Annex C	No Holidays
Impact resistance (holiday detection at 5 kV/mm +5 kV, max. 15kV after recovery)	ISO 21809-3 Annex D	> 7 J/mm
Indentation Resistance (holiday detection at 5 kV/mm +5 kV, max.15kV after recovery) @ Max Operating Temperature Residual thickness	ISO 21809-3 Annex E	10 N/mm^2 >0.6mm
Cathodic Disbondment 28 days @23°C @70°C	ISO 21809-3 Annex G	3 mm 8.5 mm
Peel strength to Steel pipe surface and plant applied coating @ 23°C, 10 mm/min	ISO 21809 -3 Annex H	>1N/mm
Peel strength to Steel pipe surface and plant applied coating @70°C, 10mm/min	ISO 21809 -3 Annex H	0.1 N/mm
Peel strength at 10 mm/min to pipe surface and to polyolefin plant coating after 100-day hot-water immersion test at Tmax limited	ISO 21809 -3 Annex H & I	0.80
Lap shear strength at 10 mm/min @23°C @70°C	ISO 21809 -3 Annex J	0.1 Mpa 0.01 Mpa
Thermal Ageing Resistance (aged at Tmax + 20 °C) --Elongation to break E_{100}/E_{70} --Peel strength to pipe surface P_{100}/P_{70}	ISO 21809-3, Annex M	After 100 days, @ 100°C, 0.85 0.85
Ultraviolet resistance	EN12068 Class C80 UV	Pass
Low temperature flexibility	ASTM D-2671-C	-30°C

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