

BH-FRY**Heat shrinkable sleeve for corrosion protection of pipeline****Features/Applications:**

BH-FRY heat shrinkable sleeve for corrosion protection of pipe, which is a heat-shrinkable, tubular sleeve which prevents corrosion of welded pipe joints in distribution lines for sizes up to DN1000. This mechanically strong and flexible sleeve is compatible with all standard pipeline coatings and outer jackets. The BH-FRY heat shrinkable tubular sleeve is mainly applied to provide anticorrosive protection for field welding and insulation mending in buried or aerial. Also it is available to provide sealing and anticorrosive protection for flanged joint and insulated flange. Mainly application for oil & gas pipelines, water pipelines and compatible line coating: PE, FBE, Coal Tar

The product has three-layered structure:

First layer: Liquid epoxy, solvent-free two-component

Second layer: High shear strength copolymer adhesive

Third layer: Radiation cross-linked polyethylene

- Shrink ratio 2:1;
- Conveniently installed, and easily operated,
- Easily adapts itself to the environment.
- Standard: Meet SY/T 0413-2002; GB/T 23257;
- Long life service and excellent waterproof performance;
- Color: Black.

**Technical Data (mm)**

No.	Item	Unit	Test results	Test Method	Conclusion
1	Tensile strength	MPa	24.6	GB/T 1040.2/ASTM D638	Pass
2	Ultimate Elongation	%	640	GB/T 1040.2/ASTM D638	Pass
3	Electric strength	MV/m	32.3	GB/T 1408.1/ASTM D149	Pass
4	Volume Resistivity	$\Omega \cdot m$	6.05×10^{13}	GB/T 1410/ASTM D257	Pass
5	chemical corrosion resistance 10% HCl (7d) 10% NaOH (7d) 10% NaCl (7d)	% % %	98 98 98	GB/T23257-2009 Appendix H	Pass
6	Heat Aging (150°C 21d) (%Elongation)	%	554	GB/T 1040.2/ASTM D638	Pass
7	Heat Shocking (225°C,4h)	—	No cracking, flow, or dripping	GB/T23257-2009 Appendix L/ASTM D2671	Pass
8	Impact Resistance	J	> 15	GB/T23257 Appendix k/ ASTM G14	Pass
9	Softening point of adhesive	°C	115	GB/T 4507	Pass
10	Lap Shear Strength	KPa	2053 (23°C) 320 (70°C)	GB/T 7124/ASTM D1693	Pass

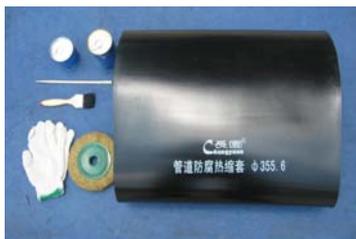
11	Peel strength	PE/FBE	N/cm	191 (23℃)	Pass	Pass
				24 (70℃)		
		PE/PE		185 (23℃)		
				23 (70℃)		
		PE/Steel		166 (23℃)		
				22 (70℃)		
12	Cathodic Disbondment		mm	16.5 31.2	ASTM G42 ASTM G8	Pass
13	(70℃, 120d) Hot-Water Immersion		—	No delamination, blisters, or water under strap	GB/T23257 Appendix N/ASTM B870	Pass
14	Water Absorption		%	0.05	SY/T0447/ASTM B570	Pass
15	Low-Temperature Flexibility		—	-15℃ Min	ASTM D2671	Pass

Product Dimensions (mm)

Model	Suitable Dia. Of pipeline	Shrink Sleeve OD (mm)	Sleeve Thickness (mm)	Heat-Melt Adhesive Thickness(mm)
BH-FRY Φ114*500-1.2/0.8	Φ114	154	1.2	0.8
BH-FRY Φ159*500-1.2/0.8	Φ159	209	1.2	0.8
BH-FRY Φ219*500-1.2/0.8	Φ219	269	1.2	0.8
BH-FRY Φ273*500-1.2/0.8	Φ273	323	1.2	0.8
BH-FRY Φ325*500-1.2/0.8	Φ325	375	1.2	0.8
BH-FRY Φ377*500-1.2/0.8	Φ377	427	1.2	0.8
BH-FRY Φ426*500-1.5/0.8	Φ426	476	1.5	0.8
BH-FRY Φ529*500-1.5/0.8	Φ529	579	1.5	0.8
BH-FRY Φ630*500-1.5/0.8	Φ630	680	1.5	0.8
BH-FRY Φ720*500-1.5/0.8	Φ720	770	1.5	0.8
BH-FRY Φ813*500-1.5/0.8	Φ813	863	1.5	0.8
BH-FRY Φ920*500-1.5/0.8	Φ920	970	1.5	0.8
BH-FRY Φ1016*500-1.5/0.8	Φ1016	1066	1.5	0.8
BH-FRY Φ1220*500-1.5/0.8	Φ1220	1270	1.5	0.8
BH-FRY Φ1350*500-1.5/0.8	Φ1350	1400	1.5	0.8

Remarks:

1. The above data is normal size. We can produce certain size of products according to the customers' demand.
2. The matching accessories: Epoxy primer, Curing agent, Brush, Glove, Mix rod.



1 Cover the tubular sleeve on to the steel pipe before welding



2 Preheat the weld to 30-40°C to eliminate the vapor (dew or frost) around it with a blowtorch



3 Clear up all the bur, splash, rust, oil, dirt and any other sundries with an electromotion tool (steel wire brush)



4 The standard of de-rust should up to Strate (de-rust using electromotion tool); GB8923Sa2.5 (de-rust using sandblast). The gradient of processing for the end of anti-corrosion layer should no more than 30 degree



5 Granulate the two sides of the weld and the lap joint of the anti-corrosion layer and then eliminate the ash after finishing eliminating rust (no more than 2h until welding)



6 Preheat the weld and the lap joint of anti-corrosion layer to 55-65°C



7 Mix solvent-free two component epoxy primer (pour B to A) and mix round the mixture for 3-5 minutes



8 Paint the primer on the pipe surface equably using a special dope brush, thickness $\geq 150\mu\text{m}$ (the mixed lacquer should used up in 1 hour)



9 Install the sleeve to the middle of weld quickly and make sure the same width of the two lap joints on to the anti-corrosion layer, and the width should equal to or more than 100mm. Press the two lap joints using an idler wheel to cling firmly



10 Set a certain height of chock inner the tubular sleeve to make sure the sleeve has some tensile force



11 Heat the sleeve from the middle part round the sleeve equably to make the middle part shrink firstly and then heat another end of the sleeve from a round direction to make sure eliminate all air bubble and the heat-shrinkable sleeve is shrunk onto the steel pipe firmly



12 Fetch out the chock when heat to the end of the tubular sleeve and the continue to heat the sleeve until the adhesive overflow equably



13 Then move the fire of the blowtorch to the middle part of the tubular sleeve and repeat 10-12 steps ,shrink another end



14 When the two ends of the tubular sleeve shrink drastically, heat the sleeve from round direction again using a small fire to make sure the adhesive melt and firmly adhibited.



15 Press the unevenly surface of the tubular sleeve with an idler wheel



The surface should smooth, no gauffer, no gas bubble after the tubular sleeve is shrunked and the tubular sleeve should adhibited to the weld and the slope of two ends of primer anti-corrosion layer firmly.
Press the surface with an idler wheel if gap appears