

## HSS60 Heat Shrinkable Wrap-around Sleeve 3-layer Girth Weld Field Joint Coating

**GUARDIAN HSS60** Heat shrinkable wrap-around sleeve is designed for corrosion protection of buried girth weld joint steel pipelines, especially for 3PE/3PP/FBE factory coated pipe.

### BENEFITS

- **Adhesion Properties:** Excellent Epoxy Primer and Hot Melt Adhesive enabling lower installation pre-heat temperature and superior bonding to steel, PE, PP and FBE coated pipe. Offers Resistance to Cathodic Disbondment, Moisture and Shear Forces induced by soil and thermal movements.
- **Fast and Easy Application:** User friendly with cost benefits.
- **Heat Temperature Indicator:** Sleeve Backing Pattern is an Indicator for the Heat Requirement during Application.
- **Service Life:** 30+ years

### APPLICATION GUIDE

	<b>HSS 60</b>
Standard reference	EN 12068 Class C50 NACE RP0303 ISO/DIS 21809-3
Compatible line coatings	PE, FBE, PP
Soil stress restriction	None
Max operating temperature	65°C
Preheat temperature	50-70°C (Wet film application)
Recommended pipe preparation	SA 1 <sup>1/2</sup> or ST 3.0

### ORDERING INFORMATION

HSS Type products are available	Product Thickness (mm)		
	Adhesive	Total Thickness (as supplied)	Total Thickness (recovered on pipe)
• As cut piece (pre-cut sleeve with separate closure patch)			
• As a roll (closure patches to be ordered separately)	1.0	1.8	2.0
	1.2	2.2	2.4
	1.5	2.5	2.8
Select sleeve width that will overlap onto the mill-applied coating by 2 inches (50mm) minimum on each side of the weld joint.	1.5	2.7	3.0
	1.7	3.2	3.5

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

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)	
<b>Example</b>	HSS 60-24X18/2.5	<b>Example</b>	HMS 60-20X100f/2.7-RL
<b>60</b>	Operating temperature 65°C	<b>100</b>	Operating temperature 65°C
<b>24</b>	Outside pipe diameter in inch	<b>100f</b>	Roll length in feet
<b>18</b>	Sleeve width in inch	<b>20</b>	Roll width in inch
<b>/2.5</b>	Sleeve thickness in mm	<b>2.7</b>	Roll thickness in mm
		<b>-RL</b>	Supplied in rolls

## HSS60 Heat Shrinkable Wrap-around Sleeve 3-layer Girth Weld Field Joint Coating

### PACKAGING

Part No.	Weight	Length
FG001227	450mm	30m
FG001233	600mm	30m

Other sizes are available on an indent basis.

### SHELF LIFE

2 years, under correct storage conditions in a dry, well ventilated area, in original sealed cartons between -20°C and 40°C

### CONFIGURATION

**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.

### PROPERTIES

Property	Test Method	Typical Value
<b>PE Backing</b>		
Tensile Strength	ASTM D 638	22MPa
Elongation	ASTM D 638	550%
Specific Gravity	ASTM D 792	0.95
Thermal Ageing 150°C 21d elongation	ASTM D 638	460%
Hardness, Shore D	ASTM D 2240	54
Shrink Force	ASTM D 639 150°C	43psi
Dielectric Voltage Breakdown	ASTM D 149	30KV/mm
Moisture Absorption	ASTM D 570	0.05%
Volume Resistivity	ASTM D 257	3X10 <sup>15</sup> ohm-cm
<b>Hot Melt Adhesive</b>		
Softening Point	ASTM E 28	120°C
Lap Shear		
@23°C	ASTM D 1002 (EN12068)	510 psi (450N/cm <sup>2</sup> )
@65°C		135 psi (5.5N/cm <sup>2</sup> )
<b>Sleeve</b>		
Peel to primer		
@23°C	ASTM D 1000 (EN12068)	180N/cm (150N/cm)
@65°C		40N/cm (30N/cm)
Cathodic Disbondment	ASTM G 42, 30 Days ASTM G 8, 30 Days	10mm @65°C 3mm @23°C
Hot Water Immersion	ASTM D 870 120 days, @Tmax	No delamination. no blisters or water ingress
Low Temperature Flexibility	ASTM D 2671-C	-35°C
Resistance to thermal ageing (100d/100°C)		
Peel Strength layer to later P <sub>100</sub> /P <sub>T</sub>	EN 12068, Class C 50	1.05
Peel Strength to pipe surface P <sub>100</sub> /P <sub>T</sub>		0.95
Low Temperature Flexibility	ASTM D 2671 C	-25°C
Impact Resistance	EN12068, Class C	15J no holiday
Water Absorption	ASTM D 570	0.01%
Penetration Resistance	EN 12068, Class C	No holidays @10KV >0/6mm @65°C

HSS type products are installed with CP-1 Epoxy primer, epoxy primers are ordered separately.

All statements and data presented herein are given in good faith and believed to be appropriate and reliable. It is given without express or implied warrant or guarantee. Potential users of Guardian's materials are urged to conduct confirmatory trials to satisfy themselves as to the suitability of the selected product for their particular end use prior to purchase.