Project	Site Owner:		
	Location:	Pipe Installation Locations and fabrication shop	
	Contract Name:		
Document Review & Issue	Produced By	I Harding	
	Reviewed By:	Dan Tibbles	
	Change comments: (If applicable)	Wording changed around HD testing and peel test requirements – effective from the date of this revision. Addition of PU to the mainline coating options in line with data sheet advice.	
	Issued To:	All sites	
		Signature: 	Date: 11th July 2025
Type Of Operation	Type of Operation:	In factory and Field Joint Coating	
	Details of Operations:	Application of Canusa Heat Shrink Sleeves (CHSS) post welding to field joints.	
	Details of Site / Location:	All locations along pipe route including in factory / under cover fabrications	
	Details of Working Area:	Pipe easement both on surface and in trench or in factory fabrication.	
	Details of Lifting Appliances:	None required	
Personnel	Co-ordinator:		
	Appointed Persons:		
	Supervisor:		
	Name of Inspector[s]		

°Field Joint Coating according to DIN 30 672

BACKGROUND

- Welding of steel pipes in the field results in an exposed area which requires protecting, to continue the mainline coating across from one pipe to the next.

- There are various methods of applying field joint coatings (FJC) including cold applied tapes, heat shrink sleeves (HSS) and epoxy or PU paints.

- The type of solution utilized on a specific project must consider the following points prior to product selection:

(i) Pipe diameter
(ii) Main line coating (MLC)
(iii) Cut back of MLC
(iv) Design and operating temperature
(v) Field conditions
(vi) Surface preparation requirements

- For most projects, the following information is relevant:

(i) The MLC is FBE, PU or 3LPE
(ii) The MLC is cut back will vary according to the type of joint used and an appropriate HSS should be used to ensure a minimum overlap of 75mm onto the mainline coating pre-installation to allow for lateral misalignment or shrinkage, providing a minimum 50mm installed onlap.
(iii) Design temperature -10 +60
(iv) Access to field joints will be either in trench, on the easement or in factory
(v) It is recommended that the preparation should be to St3 using power wire brush.

- Having considered the above requirements Canusa CPS and FTPS offer recommend K-60 (L), shrink sleeve at 450mm or 600mm for the FJC. A bespoke sleeve width can also be provided for specific projects.

- Sleeves will be either cut and prepared at FTPS' works from bulk roll material providing cut to length sleeves, with separate closure strips to suit the pipe diameters or ordered as pre-cut WrapidSleeve type.

Surface Preparation

SITE PREPARATION & SURFACE PREPARATION

- There are some crucial steps for surface preparation prior to the application of the HSS. Firstly, weather conditions and site specific considerations must be assessed with a site specific method statement provided by the installation contractor.
- There are no maximum or minimum air temperature or humidity requirements for the application of the CanusaWrap or WrapidSleeve K-60 HSS.
- It is recommended that a pipe tent or covering is used to counter wind or precipitation that could affect the quality of the installation.
- HSS may be applied immediately following the completion of the welding process assuming no NDT is required on the weld but should a joint require NDT then the field joint may be coated at a later date.
- It is recommended that a visual examination of the field joint is carried out and any burrs, sharps or slithers are removed from the bare metal, especially across the weld. This could cause a sleeve to split during installation. Care should be taken so as not to reduce the wall thickness of the pipe beyond the minimum allowable
- Any lifted or damaged mainline coatings adjacent to the area to be coated must be cut back to provide a smooth chamfer prior to the HSS being applied.
- Wipe clean with a lint free cloth the exposed steel surface and adjacent MLC to a distance of +50mm over the width of the sleeve. It is recommended that Upol Slow Degreaser is utilized for this purpose. Heavily soiled joints can be washed down with water to remove the bulk of any soiling.
- Field joints must be mechanically worked to provide a finish to St3 acc ISO 8501. Care should be taken to avoid “polishing” the surface of the pipework.
- The MLC should also be scoured adjacent to the field joint so as to provide a key for the HSS to key into. It is recommended that the scouring is taken to beyond the edge of the HSS application zone as a visual check. Wipe dust from the field joint following the St3 surface preparation.
- Preheat the field joint to a minimum temperature of 65°C *(-0°+20°C)*. It is recommended that propane torches with a 2.5 to 3” burner head are used for this purpose. It is recommended that the preheating is done by two operatives, one either side of the pipeline, providing a sweeping motion up and down, including onto the MLC in order that even heat is applied. The steel substrate will transfer the heat to the MLC and therefore minimal heating of the MLC is required.
- Check at least four locations around the field joint to establish the minimum temperature has been reached. Do not exceed 120°C so as to remove risk of damage to the MLC or internal pipe lining.
- HSS are provided as one unit per joint with a separate closure strip or as a WrapidSleeve with a pre-attached closure.
- Remove the tape securing the sleeve and unwind the sleeve.

Sleeve Installation

SLEEVE INSTALLATION

- If a CanusaWrap, locate the separate closure strip and place on one side.
- Unwind the rest of the HSS and pass under the pipe work to the second operative.
- Remove the release the liner that protects the adhesive.
- The first operative applies a propane flame to the adhesive side of the sleeve to soften the adhesive on the leading edge with the chamfered corners. Use two or three sweeps of the propane torch to achieve the softening. Place the sleeve with the chamfered corners across the field joint, making sure a minimum 75mm overlap onto the MLC. Firm the sleeve down.
- The second operative brings the sleeve into position, removes the release liner and folds back the trailing edge by around 150mm so that the first operative can apply the propane torch to the adhesive side and soften the adhesive. Use two or three sweeps of the propane torch to achieve the softening.
- The sleeve is then overlapped 100-150mm.
- On the closure strip, remove the two PE lines which protect the adhesive. Apply the closure strip across the junction between the two sleeves and press down.
- Heat the closure strip with a moderate flame and using a J Roller to roll the closure until it has fused the sleeve ends.
- Using a high intensity flame and using a sweeping motion concentrate heat along the center of the field joint and start moving first one way and then the other. Two operators allow an even shrinking of the sleeve to be achieved. This is a circumferential movement up and down. Sleeves should not be shrunk from one end first unless “shingling” sleeves, (applying sleeves adjacent to each other).
- As one edge is reached the operators should change back to the center and start working the other side of the sleeve, again starting at the center and working out.
- As the sleeve is worked it can be seen to recover and tighten around the joint.
- Once the main heating is completed, concentrate the flame with sleeping movements along the sleeve edge until the mastic can be seen to begin to wet out. Stop heating once the adhesive can be seen.
- Apply a “post-heat” with broad sweeping movements across the sleeve to ensure all the sleeve backing has sufficient heat. A judgement on site as to the amount of post-heat must be made on each individual application.
- To avoid damaging the sleeve or adjacent MLC do not leave the flame concentrated on any one single area –the sleeve can catch fire/burn with intense heat.

Canusa Check Sheet - Field Application		
Date		
Canusa Batch #		
	Description	**Check**
	St3 Power Brush	
	Degrease	
	Pre Heat to 65 degrees	
	Application	
	Visual check	
Applicator		
Notes		

Post Application Checks

POST APPLICATION CHECKS

- After completion of the HSS application, the edges of the sleeve should checked to establish that the adhesive has “wetted out”. The amount of wetting out is not crucial but it does demonstrate sufficient heat has been applied to the edges of the sleeves.
- Check that there is a minimum overlap over the sleeve ends of 50mm and onto the mainline coating.
- The sleeve will still be recovering, and care should be taken not to put any mechanical pressure against the applied sleeve.
- The sleeve should be examined to make sure there are no splits, tears or breaks.
- Any air pockets can be worked out using a J Roller and the sleeves can be reheated to help achieve this. Care should be taken so as not to damage the sleeve when reworking, this includes excessive rolling of the sleeve to expel mastic pockets that may have formed during the installation. Rolling edges to extrude mastic should be kept to a minimum.
- The sleeve must be allowed to cool before it is back filled. Sleeves can be quenched with water to reduce the sleeve temperature to below 40°C all round to reduce the time between sleeve installation and backfilling . Use selected backfill to avoid damaging the HSS and ensure the backing is firm before burying.
- Mastic flow can be checked by cutting a “window” into the sleeve – a “peel test” can be used as part of prequalification testing under laboratory conditions.
- If following inspection or prior to burying the backing appears to have been damaged a Holiday Detection test to a maximum 15kV can be applied to determine if a repair is required.
- HD tests are not required or recommended on each individual sleeve installation.
- Canusa HSS products are not designed to be applied and left above ground – care must be taken to cover field joints that are to be left unburried for an extended length of time (2 months+).

Mastic flow check

Previous iterations of this document of referred to a peel test post application as a way of verifying the quality of a sleeve application with a measurable value. This is normally applied as a laboratory test with controlled parameters which cannot be replicated with a test in the field.

Canusa recommend that the best way of checking the quality of the application is to check the mastic flow of the adhesive, which demonstrates both adequate surface preparation and correct installation techniques.

The PE backing is the carrier and mechanical protection for the mastic, which is the corrosion protection. Cutting a “window” into the sleeve post installation will identify that the mastic flow covers the surface underneath the backing. The window should be cut onto the socket part of the field joint and not across the weld, nor across the onlap section onto the mainline coating.

Incomplete coverage of the surface could be the result of insufficient surface preparation with dust or other contamination – or insufficient pre-heat or application heat – or a combination of factors.