

Tapecoat®

Application Guideline

1.0 SCOPE

This document contains general instructions and recommended practices for the application of Tapecoat elastomeric, cold applied tape coating systems. The Tapecoat elastomeric adhesives are gray adhesives that have an integrated primer. The various coating grades discussed in this document are used for the corrosion protection of piping, girth welds, fittings, pipe reconditioning and pipe fabrication for above or below grade environments. The specifics of where the product can be used are detailed in Section 2.0. For assistance in coating selection, surface preparation, application or inspection, please contact a Tapecoat Representative.

2.0 MATERIALS

2.1 Tapecoat H35 or H50 - A 35 or 50 mil tape with integrated primer for coating small to moderate diameter pipe, pipe joints, and repair of factory coating. For use above or below grade.

2.2 Tapecoat M50 or M65 - A 50 or 65 mil mesh backed tape with integrated primer for coating small to large diameter pipe, pipe joints, and repair of factory coating. The mesh backing gives an exceptional resistance to soil stress. The M65 is also available as a 6" x 6" pad to be used as a patch or thermite weld covering. For use below grade only.

2.3 Tapecoat TR Green - A 35 mil tape with a strong but conformable backing and integrated primer for coating small to moderate diameter pipe, pipe joints, bends and tees. For use below grade only.

2.4 Tapecoat T-Tape - A 65 mil tape with a thin film backing and integrated primer for coating tees and fittings. It can be used as a standalone coating, but in some environments it may require an outer mechanical layer of tape or rockshield. For use below grade only unless it is wrapped with a UV stable mechanical coating.

2.5 Tapecoat Moldable Sealant - A 30, 40 or 60 mil adhesive with integrated primer for coating weld seams, bolts, step downs or anywhere a filler material is needed. For use under other coatings only.

2.6 Tapecoat Omniprime® - Liquid Adhesive/Primer required for applications below 40°F. It can also be used as a primer above 40°F when required by the specification or end user.

2.7 Tapecoat Terrashield® - A 3/8" thick closed cell polyethylene foam rock shield with 1/4"

perforations. Protecting the pipe coating by cushioning the impact of the backfill as it is reintroduced into the ditch and keeping deleterious backfill from direct contact with the pipe coating after the ditch has been closed.

2.8 Tapecoat Hand Wrapster - A hand operated application tool, which can assist the operator in wrapping tape with the proper tension and overlap for piping 4" OD and above.

3.0 SURFACE PREPARATION

3.1 All substances that will impede bond or otherwise be detrimental to the performance of the coating system must be removed prior to the coating application. This includes all loose surface material, rust, dirt, dust, moisture, grease, oil, sharp edges, burrs, mill scale, welding splatter and shop lacquer.

3.2 The pipe cleaning must meet either SSPC-SP 2 or SSPC-SP 3 at a minimum, but SSPC-SP6 /NACE No. 3 can also be used.

3.2.1 SSPC-SP 2 HAND TOOL CLEANING: Scrapers, files and wire brushes.

3.2.2 SSPC-SP 3 POWER TOOL CLEANING: Power brushes and grinders

3.2.3 SSPC-SP 6 / NACE No.3 COMMERCIAL BLAST CLEANING

Important to note: Clean the grit or shot off the pipe surface after blasting.

3.3 The coating must be applied as soon as practical after cleaning to keep dirt and rust bloom from re-contaminating the pipe surface.

3.4 Before coating application the surface must be dry. Preheating may be required to achieve this.

4.0 TAPE APPLICATION

4.1 If the decision is made to use the Omniprime, a thin (4 mil wet) coating applied by brush is recommended. The primer must be given enough time to dry before the tape is applied. A simple touch test can be used to indicate when the primer is dry. A tacky feel without transfer of the primer to a gloved hand is considered a successful touch test.

4.2 If needed, Tapecoat Moldable Sealant or T-Tape should be used to fill all step-down areas, irregular shapes and angles. The Moldable Sealant and T-Tape application will create a smooth surface to allow for full bonding of the tape coating.

4.3 Tape must be applied with sufficient tension to conform and bond to the pipe surface using either a manual or tape wrap machine method. Remove the release liner as the tape is being applied.

4.3.1 Preferred method: Apply tape in a spiral wrap with sufficient overlap to ensure a good lap seal.

4.3.2 Cigarette wrap tape when conditions do not allow for spiral wrapping.

4.4 The overlap should be a minimum of 1 inch or 20% of the tape width, whichever is greater. When conditions require additional protection, a 50% overlap should be used.

4.5 Field applied tape should extend at least 4 inches over the factory coating.

4.6 The tape wrap should be free of voids and wrinkles. When coating a weld joint, added care must be given when wrapping over a factory cutback. If the factory coating is thicker than joint tape selected, Tapecoat Moldable sealant or T-Tape should be used to allow for a smooth transition at the cutback.

4.7 The coating wrap should end on the down side of the pipe between the 1 to 5 o'clock positions.

4.8 When coating a vertical or riser pipe, always wrap from the bottom to the top.

5.0 INSPECTION AND TESTING OF FIELD APPLIED COATING

5.1 Visual Inspection: The tape wrap shall appear free of voids and wrinkles.

5.2 Electrical Continuity Test (Holiday Detector): A coil spring electrode or brush-type electrode shall be used. The voltage should be determined using NACE RP0274 (Discontinuity (Holiday) Testing of Protective Coatings). The voltage setting is determined using the below formula.

Holiday Detection Voltage Setting (Volts) = $\sqrt{\text{thickness (in mils)} \times 1250}$

6.0 REPAIR OF DAMAGED COATING

6.1 All damaged and loose coating must be removed. If this removal results in the metal surface becoming visible it must be prepared as discussed in Section 3.

6.2 When the damaged area is sufficiently deep, Tapecoat Moldable Sealant should be used to fill the void prior to the application of tape.

6.3 Apply tape with enough pressure to conform and fill in the irregular areas of the substrate. Remove the release liner as the tape is being applied. Apply tape with tension.

6.4 Tape Application Methods

6.4.1 The preferred method is to wrap the tape around the total circumference of the pipe (either spiral wrap or cigarette wrap), covering the area of the holiday and extending onto the undamaged coating a minimum of 4 inches.

6.4.2 When a full circumferential wrap is not possible or not required, a coating patch can be used. The coating repair should cover and surround the damaged area extending at least 2-3 inches onto the undamaged coating in all directions. Tape can

either be cut to length for this application or precut patches such as M65 Pads can be used.

7.0 HANDLING, SHIPPING AND STORAGE

7.1 Care should be taken to handle the coated pipe in such a manner as to prevent exposure to abrasion or damage during handling, shipping, storage or installation.

7.2 Booms, hooks, forklifts, skids and all other devices used to move or handle coated pipe must be padded to prevent damage to the coating. Chains and steel bands should not be used.

7.3 Pipe should be shipped with sufficient padding or dunnage to adequately protect the pipe coating.

8.0 BACKFILL

8.1 Backfill should be free of large rocks, stones, scrap, and debris that could damage the coating.

8.2 Tapecoat Terrashield can be used to protect the coating when it is determined that backfill, handling or installation could be detrimental to the integrity of the coating.

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