Tapecoat®

Manufacturer's Qualified Application Procedure (MQAP)

1.0 SCOPE

This document contains recommended practices for the application of Tapecoat elastomeric, cold applied tape coating systems in order to meet CSA Z245.30 2014 requirements. These coatings meet the manufacturer qualification coating test requirements for System FC4, adhesive and polymeric backing tape. The various coating grades discussed in this document are used for the corrosion protection of piping, girth wields, 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

a. PRIMERS

- 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.

b. COATINGS

- Tapecoat H35 – A 35 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. Meets acceptance criteria for **System FC4**.
- Tapecoat H50 – A 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. Meets acceptance criteria for **System FC4**.

c. SUPPORTING PRODUCTS (OPTIONAL)

- 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.
- 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.

d. OUTERWRAP (OPTIONAL)

- Tapecoat Terrashield® - A 3/8" thick closed cell polyethylene foam rock shield with ¼" 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.

e. APPLICATION TOOLS (OPTIONAL)

- 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 APPLICATION REQUIREMENTS (Per CSA Z245.30-14, Section 5.3.2)

a. A Tapecoat Hand Wrapster can be helpful for larger applications, but is not required. No other tools are needed during the application process.

b. The Steel and adjacent coatings shall be cleaned with acetone, isopropyl alcohol (IPA), xylene, toluene or other fast drying solvents that do not leave any residue. Mineral spirits should not be used.

c. The pipe cleaning must meet either SSPC-SP 2 or SSPC-SP 3 at a minimum, but SSPC-SP11, SSPC-SP6 /NACE No. 3 can also be used. 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. The coating must be applied as soon as practical after cleaning to keep dirt and rust bloom from re-contaminating the pipe surface. Before coating application the surface must be dry. Preheating may be required to achieve this. Tools commonly used to provide recommended cleaning include: scrapers, files, brushes, grinders and a wide mouth torch.

d. If possible, adjacent coatings should be tapered at the end to allow for the tape to be applied without a void at the transition from the steel to the adjacent coating. If this is not possible, Tapecoat Moldable Sealant is needed for step downs greater than 1/8". Adjacent coating cleaning must meet SSPC-SP1. Epoxies and PP should be sanded with medium grit sandpaper prior to cleaning to increase the bond strength.

e. Tapecoat Elastomeric Tapes are compatible with most other anti-corrosion coatings. Compatible coatings include epoxy, FBE, PE, PP and CTE.

f. Preheating of the substrate is not normally required. If the substrate temperature is below the range stated below it can be heated using a wide mouth torch until the substrate is within the stated range. Preheating can be used for removing moisture present on the pipe surface should it exist.

g. The substrate shall be between 40°F and 120°F (+4 to +49°C) for surface preparation and application without a primer. If using the Tapecoat Omniprime the substrate shall be between -20°F and 120°F (-29 to +49°C) for surface preparation and application without a primer.

h. The temperature of the substrate must be 5°F (3°C) above the dew point

temperature.

i. Tapecoat Elastomeric Tapes do not require mixing or thinning. If the Tapecoat Omniprime is being used it should be mixed or stirred using a paint stirrer or drill with attached mixing blade at low speed. The Omniprime should be mixed until it is homogenous. Thinning is not required and should not be tried with the Omniprime.

j. Tapecoat Elastomeric Tapes come in a preformed roll at a specified thickness. The coating specification will determine if one or two or more layers of tape are required to meet the minimum requirement. Coating thicknesses for Tapecoat Elastomeric Tapes range from 35 mils to 65 mils depending on the product.

k. For application of Tapecoat Elastomeric Tapes, the usage of supporting products may be utilized to ensure a successful application. Please refer to section 2.0 Materials for product descriptions on the supporting products.

    i. 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.

    ii. 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.

    iii. 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.

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

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

    iv. 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.

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

    vi. 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.

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

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

l. Tapecoat Elastomeric Tapes do not require curing or cooling.

m. 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.

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

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.

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.

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 4 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.

n. Tapecoat Elastomeric Tapes can be backfilled immediately after installation.

o. Tapecoat Elastomeric Tapes and Omniprime handling and storage requirements are as follows:

i. Stored between -40 and 90°F (-40 to +32°C).

ii. The humidity will not affect the material.

iii. Should be stored in their original, unopened containers away from the elements (snow, rain) and out of direct sunlight.

iv. Should be stored in their original, unopened containers away from possible contaminants (dust, water, chemicals).

v. Should be used on a first in, first our basis. Should be used prior to their expiration date (3 years from manufacture).

vi. Should be stored in their original, unopened containers and protected from all forms of physical damage.

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Chase Corporation
295 University Avenue
Westwood, MA 02090

Phone: 800-323-4182
Fax: 781-332-0701
www.chasecorp.com

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