STEELCOAT™ WIND TURBINE BASE PROTECTION SYSTEM

PROTECTION AND SEALING OF STEEL WIND TURBINES AND ANCHOR BOLTS

INSTRUCTIONS FOR USE

EQUIPMENT

- Personal Protection Equipment (not supplied by Premier Coatings Ltd)
- Surface Preparation Equipment (not supplied by Premier Coatings Ltd)
- Brushes (not supplied by Premier Coatings Ltd)
- Cutting tools (not supplied by Premier Coatings Ltd)
- Masking tape (not supplied by Premier Coatings Ltd)
- Premtape™ Hi-Tack Primer
- Premtape™ Hi-Tack
- Premier™ Moulding Compound, Premtape™ LD Mastic Temperate or other Premier mastic as specified
- Premcote™ Primer
- Premier™ Ultraseal RT
- Premtape™ D5 Scrim
- Acrylic Topcoat

HANDLING AND STORAGE

- All materials shall be stored upright in their original packaging, out of direct sunlight.
- All materials shall be stored in a cool dry place between 5°C and 35°C.
- Please read the Safety Data Sheet for all materials before commencing application.

DISPOSAL

Please minimise or avoid waste wherever possible. Please do not discard waste material, including packaging, in the surrounding environment. Follow all relevant legislation for disposal.

IMPORTANT:
Premier Coatings Ltd pursue a policy to develop and continually improve all of our products and therefore information given in these instructions for use is intended as a general guide and does not constitute a warranty, specification or risk assessment. Instructions for use are intended to provide sufficiently detailed information to achieve successful installation in normal circumstances. These guidelines may not cover all circumstances; however, our sales personnel are committed to assisting the user in establishing the suitability of the product for its intended purpose and additional specific information, advice and training (including Safety Data Sheets) is available. It is strongly recommended that installation is conducted with due regard to Health and Safety using a safe system of work, including risk method statements, in accordance with relevant local statutes and regulations. Equipment used for installation must be suitable for the intended use, maintained in a safe assessments and condition, inspected for signs of deterioration, and used by competent personnel. Any conflict between these guidelines and the specific project specifications must be resolved by the user before work commences. All rights reserved.

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ISO 9001 Quality Management Systems CERTIFIED Q 09303
ISO 14001 Environmental Management CERTIFIED EMS 677780

PUB No. 576.08.2021

SURFACE PREPARATION

METHODS AND EQUIPMENT

The following surface preparation methods may be used:

- Hand tool cleaning.
- Power tool cleaning.
- High pressure water jetting.
- Abrasive blast cleaning.
- Other methods by agreement.

The choice of method shall consider:

- The degree of corrosion on the area for protection.
- Any existing corrosion prevention coatings on the area for protection
- Any existing contamination on the area for protection.
- Any hot working or spark restrictions at the site.
- Any environmental restrictions at the site.
- The reduction of debris being deposited into the marine environment.

DEGREE OF CLEANING

- All loose corrosion products must be removed.
- All mill scale must be removed.
- All dust, dirt and/or grease must be removed.
- All loose corrosion prevention coatings must be removed.
- Tightly adhering corrosion prevention coatings can remain on the area for protection.
- Achieve a degree of cleaning of St2 according to ISO 8501-1 as a minimum.

HI-TACK PRIMER APPLICATION

Masking tape shall be applied to the turbine mono pole and to the concrete foundation as directed according to the project drawings or specification (see Fig. 1). During application of the Hi-Tack Primer, Mastic and Hi-Tack Tape, care shall be taken not to contaminate the area outside of the two strips of masking tape as this will affect the adhesion of the other layers (see Fig. 2).

The Hi-Tack Primer shall be applied between the two strips of masking tape (see Fig. 2). The Hi-Tack Primer shall be applied in a thin film. Anchor bolts shall be completely coated with Hi-Tack Primer.

The Hi-Tack Primer shall be allowed to dry, approximately 30 minutes at 25°C.

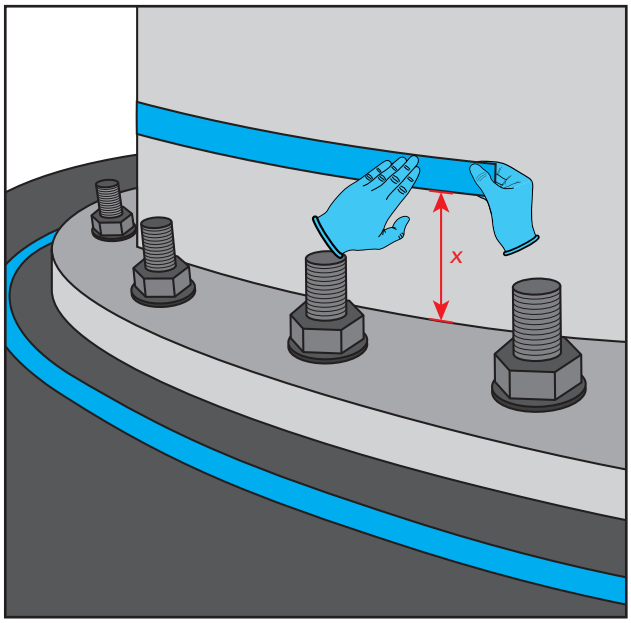

Fig. 1: Apply masking tape to section off the area for protection.

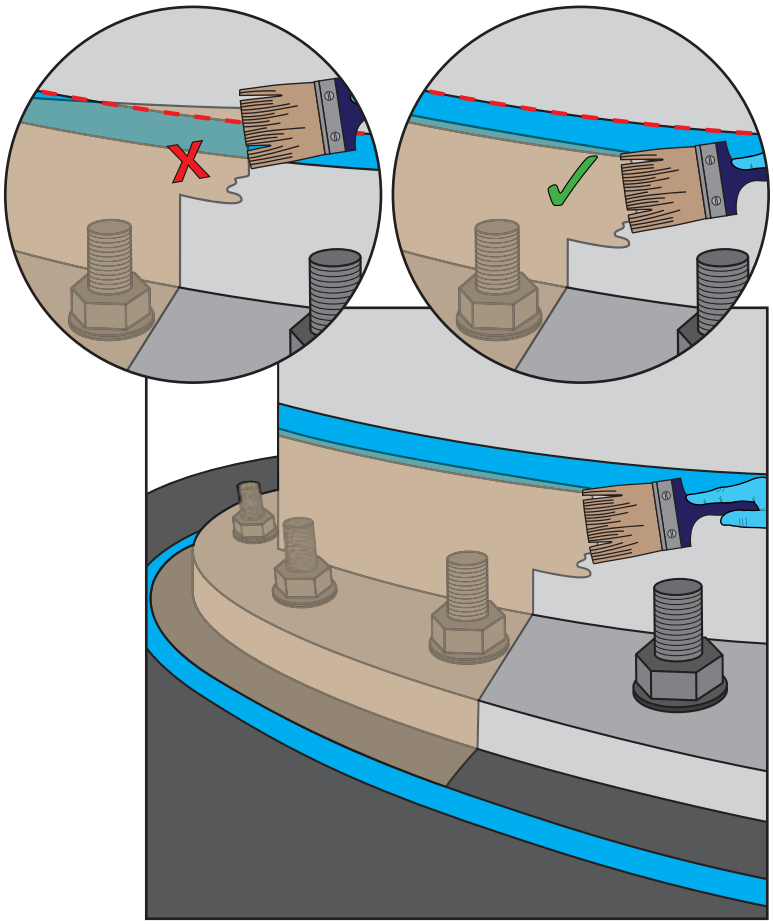

Fig. 2: Apply the Hi-Tack Primer, ensuring not to contaminate any areas outside of the masking tape (inset).

MASTIC APPLICATION

The Mastic shall be applied over the dry Hi-Tack Primer as directed according to the project drawings or specification. The Mastic shall be shaped to have a triangular cross section to profile the base of the turbine so that water shall run away from this area once the system is completed.

Unless directed otherwise, the anchor bolts shall be completely covered by the Mastic. The Mastic shall be smoothed to prevent voids being present under the subsequent tape layers.

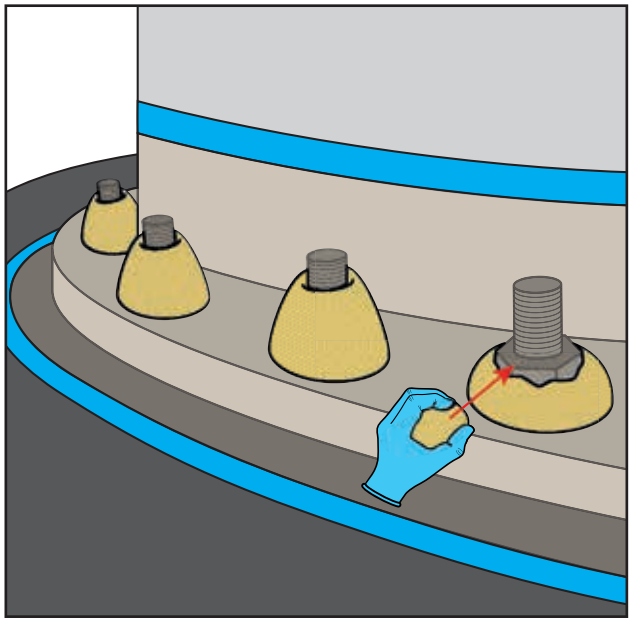

Fig. 3: Firstly apply mastic to the bolts around the base.

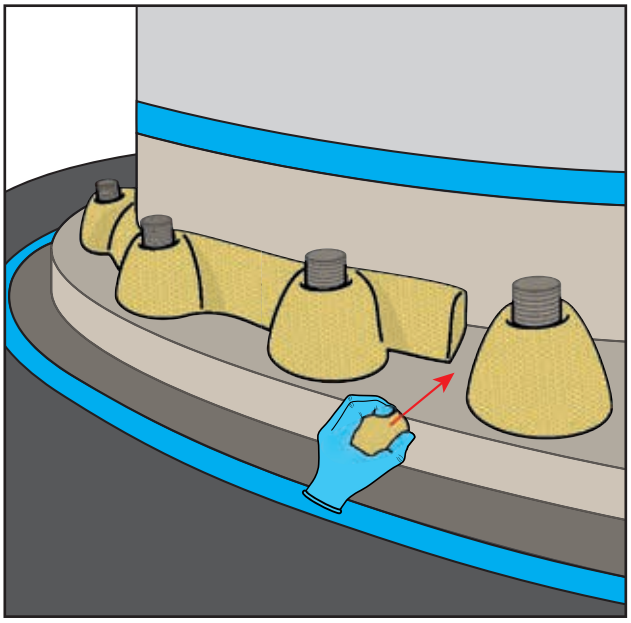

Fig. 4: Continue mastic application from behind the bolts, ensuring no air gaps are entrapped within the Mastic.

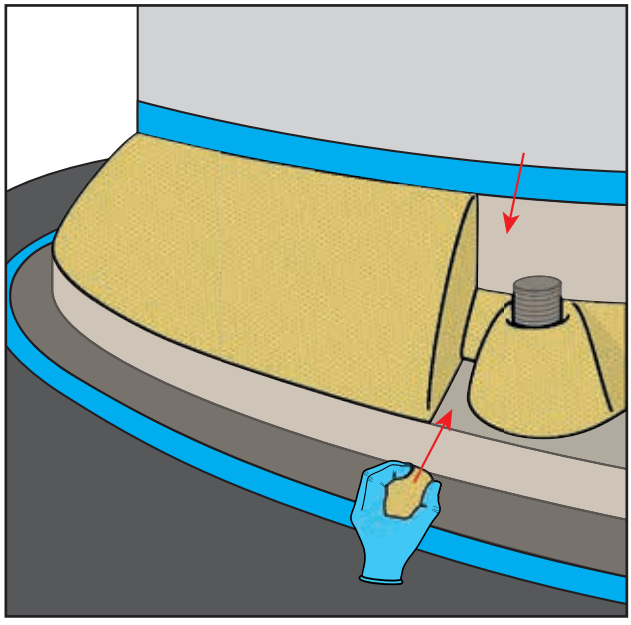

Fig. 5: Continue adding mastic, shaping at a 45° angle toward the concrete base.

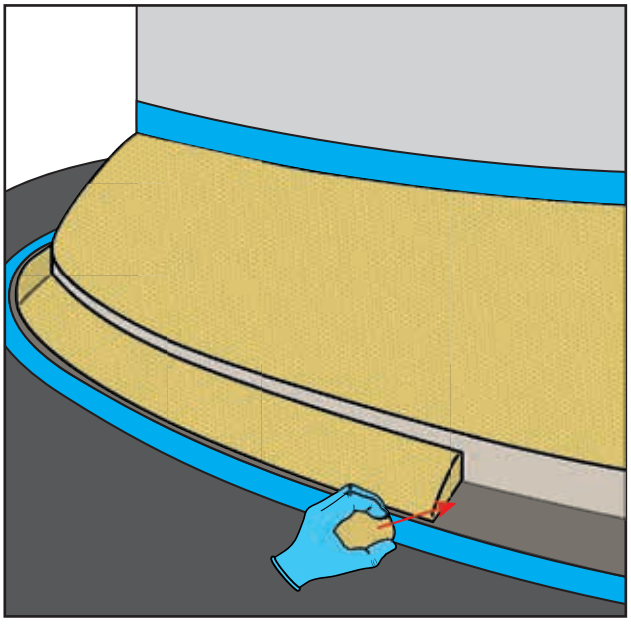

Fig. 6: Should the base feature a stepped profile, apply mastic at a 45° angle toward the ground in order to create a smooth profile for wrapping.

HI-TACK TAPE APPLICATION

The Hi-Tack Tape shall be applied from the bottom of the mastic towards the turbine mono pole as directed according to the project drawings or specification (see Fig. 7). The Hi-Tack Tape shall be applied in a "weatherboard" fashion, where the vertical overlaps between the layers are orientated downwards to prevent water ingress. Each vertical overlap shall be a minimum of 50mm (see Fig. 8).

The Hi-Tack Tape may be applied in strips or continuously from the roll. The choice will depend on the overall diameter of the turbine base and the access available at the site.

The Hi-Tack Tape shall be smoothed to remove any creases or air pockets.

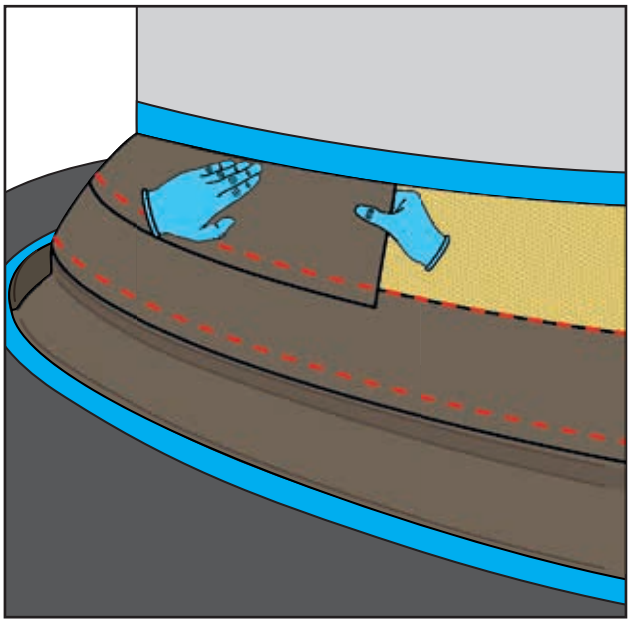

Fig. 7: Application of the Hi-Tack Tape from the bottom of the mastic upwards, in a weatherboard fashion.

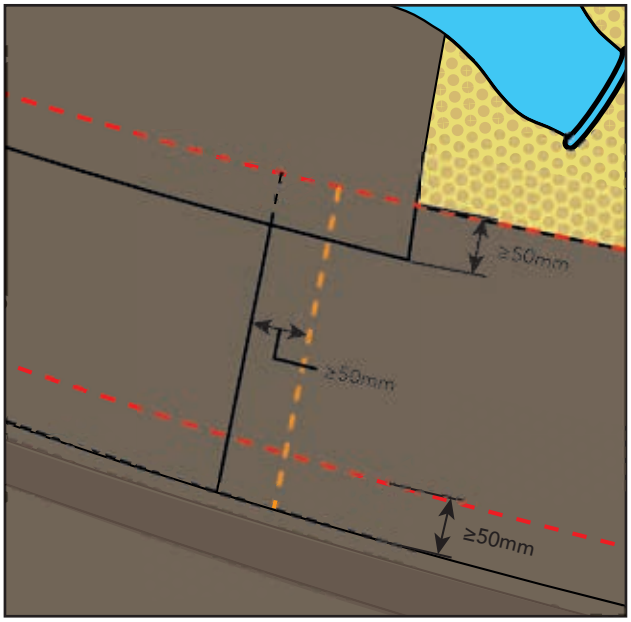

Fig. 8: Close up view detailing the 50mm vertical overlap of each layer of Hi-Tack Tape. A new roll or strip of tape shall overlap onto the previous roll by at least 50mm.

PREMCOTE PRIMER APPLICATION

The masking tape used to define the area of application of the Hi-Tack Primer and Hi-Tack Tape shall now be removed. New masking tape shall be applied 50mm beyond the location of the previous strips of masking tape (see Fig. 9). This shall provide a 50mm band of exposed substrate above and below the Hi-Tack Tape.

The Premcote Primer shall be applied in a thin film over each band of exposed substrate (see. Fig 9). The Premcote Primer shall be allowed to dry, approximately 20 minutes at 25°C.

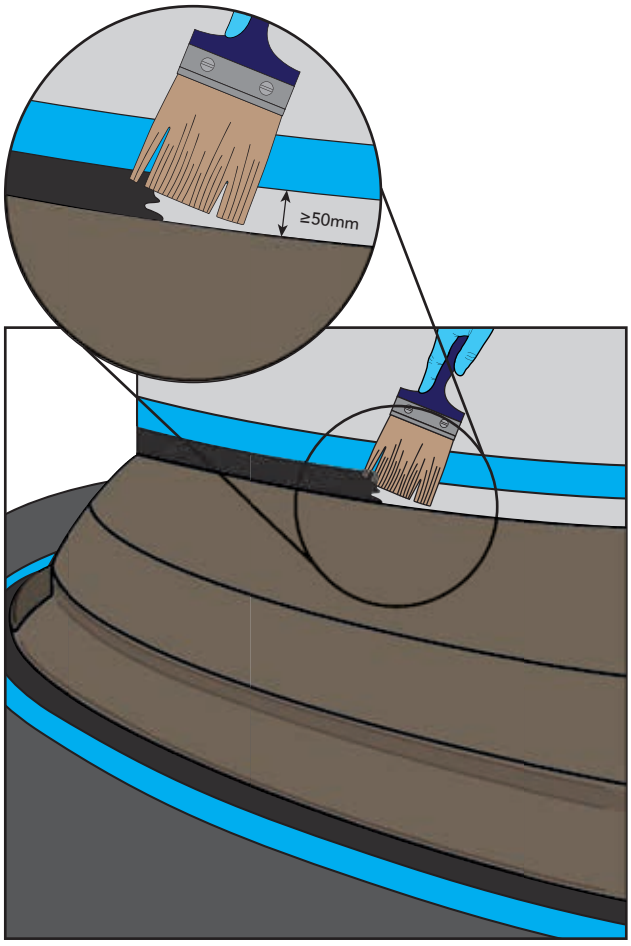

Fig. 9: Application of Premcote Primer to the substrate.

ULTRASEAL RT TAPE APPLICATION

The Ultraseal RT Tape shall be applied onto the bottom strip of Premcote Primer completely covering it and shall overlap onto the Hi-Tack Tape. The Ultraseal RT Tape shall continue to be applied over the Hi-Tack Tape, towards the turbine mono pole until the upper strip of Premcote Primer is completely covered but not exceeded, as directed according to the project drawings or specification (see Fig. 10). The Ultraseal RT Tape shall be applied in a "weatherboard" fashion, where the vertical overlaps between the layers are orientated downwards to prevent water ingress. Each vertical overlap shall be a minimum of 50mm (see Fig. 11).

The Ultraseal RT Tape may be applied in strips or continuously from the roll. The choice will depend on the overall diameter of the turbine base and the access available at the site.

The Ultraseal RT Tape shall not be applied under tension as this may cause the ends of the Ultraseal RT Tape to move, exposing the bitumen adhesive and cracking the Acrylic Topcoat. The ends of the Ultraseal RT Tape may be reinforced with D5 Scrim and Acrylic Topcoat if required. The Ultraseal RT Tape shall be smoothed to remove any creases of air pockets.

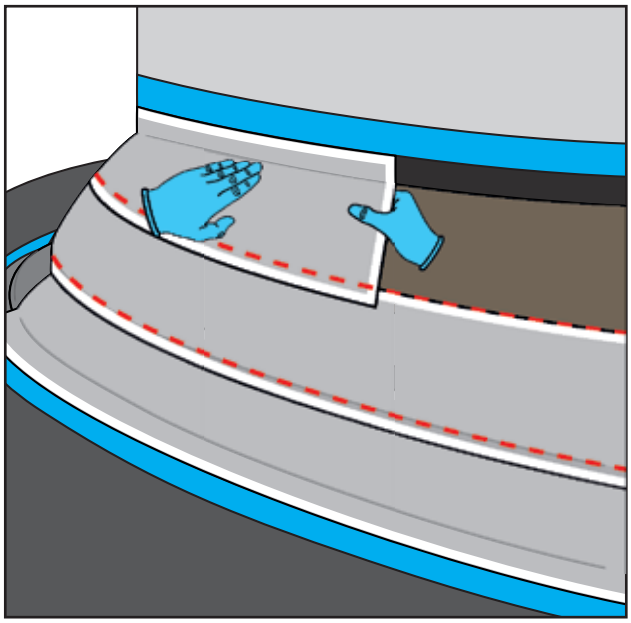

Fig. 10: Application of the Ultraseal RT Tape from the bottom of the base of the turbine upwards, in a weatherboard fashion.

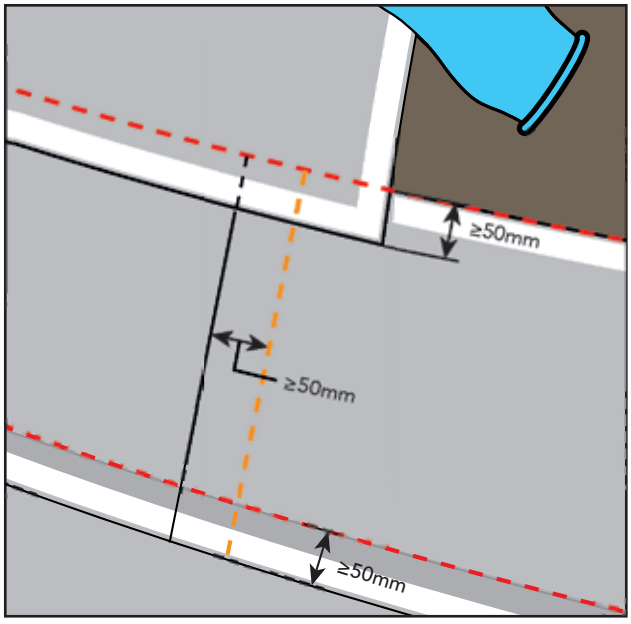

Fig. 11: Close up view detailing the 50mm vertical overlap of each layer of Ultraseal RT Tape. A new roll or strip of tape shall overlap onto the previous roll by at least 50mm.

ACRYLIC TOPCOAT APPLICATION

The masking tape used to define the area of application of the Premcote Primer and Ultraseal RT Tape shall now be removed. New masking tape shall be applied 15mm beyond the location of the previous strips of masking tape. This shall provide a 15mm band of exposed substrate above and below the Ultraseal RT Tape.

The Acrylic Topcoat shall be applied in two coats (see Fig. 13).

The first coat shall be applied in a thick, even film to completely saturate the fabric backing of the Ultraseal RT Tape. It shall be ensured that Acrylic Topcoat is applied under and over the fabric overlaps of the Ultraseal RT Tape to ensure sealing between the layers (see Fig. 12).

The second coat shall be applied after the first coat has dried, approximately 2 – 3 hours at 25°C. The second coat shall be applied in a thick, even film to completely cover the first coat.

The masking tape used to define the area of application of the Acrylic Topcoat shall now be removed (see Fig. 14).

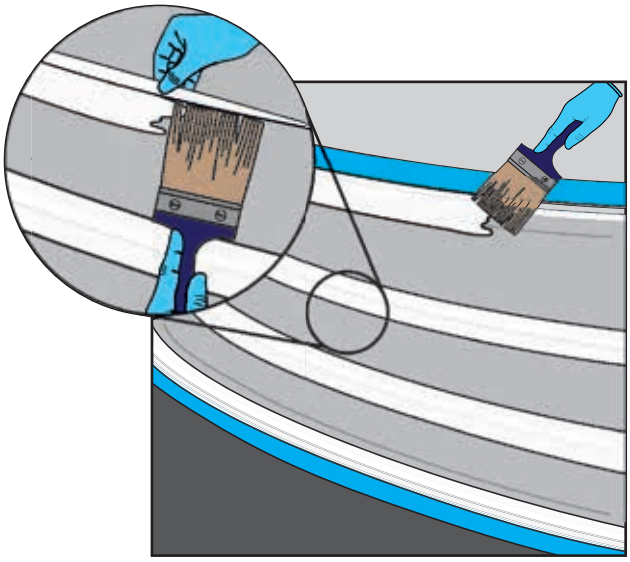

Fig. 12: Apply Acrylic Topcoat both over and under the fabric overlaps of the Ultraseal RT Tape (inset).

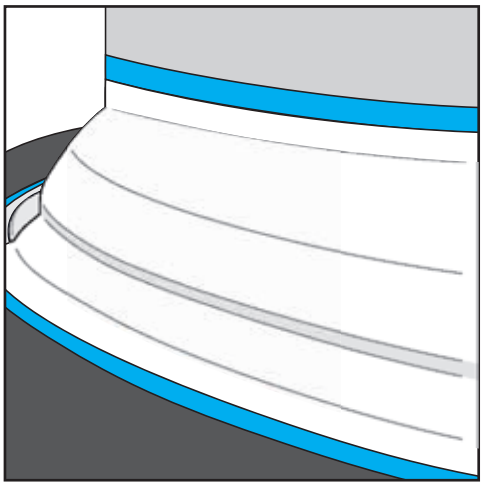

Fig. 13: Apply two coats of Acrylic Topcoat in a thick, even film over the Ultraseal RT Tape.

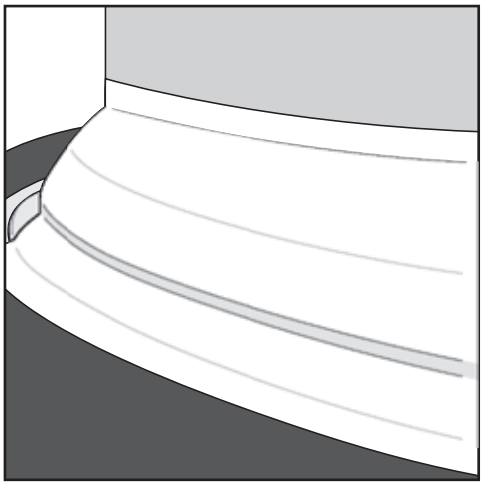

Fig. 14: A completed system application.