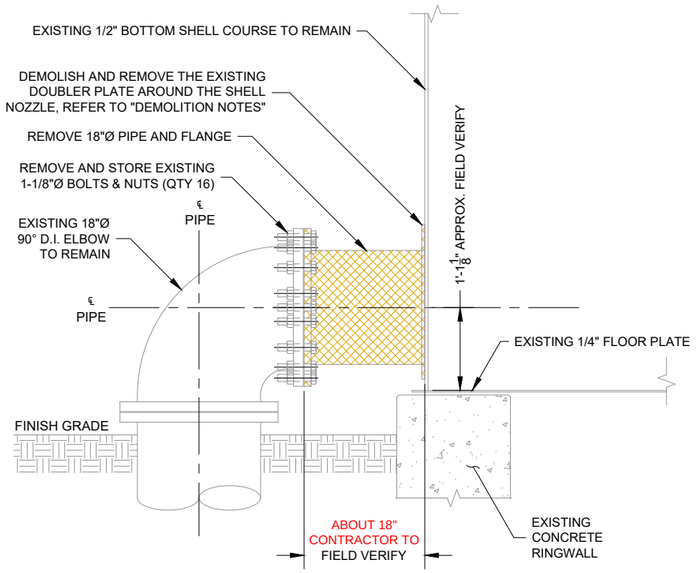


A DEMOLITION SECTION

SCALE: 1" = 1'-0"

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY NOZZLE LOCATION RELATIVE TO FLOOR-TO-SHELL JOINT AND EXISTING WELDS PRIOR TO CUTTING.
2. THE CONTRACTOR SHALL SELECTIVELY REMOVE THE EXISTING FILLET-WELDED DOUBLER (REINFORCING) PLATE AT THE SHELL NOZZLE. WORK SHALL BE PERFORMED IN A CONTROLLED MANNER TO PREVENT DAMAGE TO OR REDUCTION OF THE UNDERLYING SHELL PLATE THICKNESS.
3. PROHIBITED METHODS: CARBON ARC (AIR-ARC) GOUGING, OXY-FUEL TORCH CUTTING OF THE FILLET WELD, BACK-GOUGING WITH A CUTTING TORCH, OR IMPACT REMOVAL (HAMMERING, STRIKING, OR FORCED PRYING) ARE NOT PERMITTED.
4. THE DOUBLER PLATE SHALL BE MECHANICALLY SECTIONED INTO MULTIPLE SEGMENTS TO RELIEVE RESTRAINT PRIOR TO REMOVAL. SECTIONING MAY BE PERFORMED USING THIN-KERF ABRASIVE CUTOFF WHEELS OR AN APPROVED MECHANICAL CUTTING DEVICE. CUTTING SHALL BE LIMITED TO THE DOUBLER PLATE ONLY; THE SHELL PLATE SHALL NOT BE CUT OR GOUGED.
5. AFTER SECTIONING, SEGMENTS SHALL BE CAREFULLY SEPARATED FROM THE WELD USING CONTROLLED MECHANICAL MEANS SO THAT SEPARATION OCCURS AT THE FUSION INTERFACE BETWEEN THE DOUBLER PLATE AND THE WELD METAL.
6. FOLLOWING REMOVAL OF THE DOUBLER PLATE, REMAINING WELD METAL SHALL BE GROUND SMOOTH USING FLAP-DISC GRINDING ONLY. GRINDING SHALL REMOVE THE WELD REINFORCEMENT WITHOUT REMOVING BASE METAL OR REDUCING THE SHELL PLATE THICKNESS.
7. IF THE SHELL PLATE IS DAMAGED, GOUGED, OR REDUCED IN THICKNESS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER. REPAIR SHALL NOT PROCEED WITHOUT ENGINEER APPROVAL.

REPAIR NOTES:

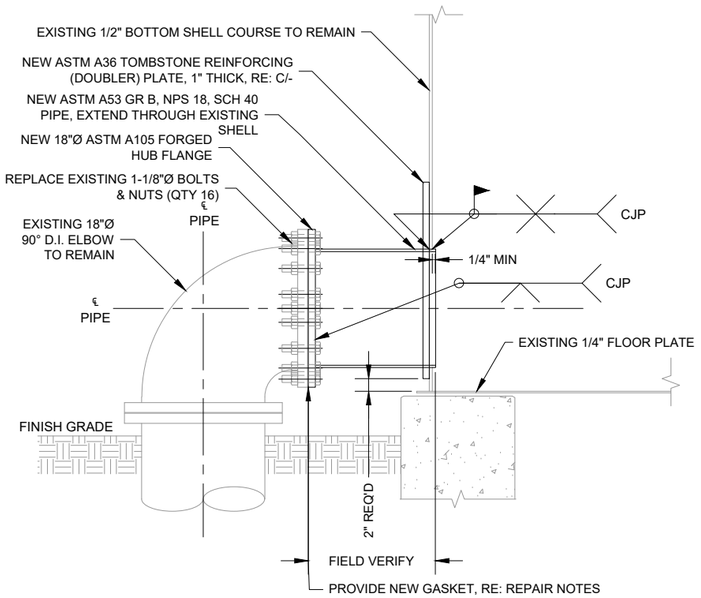
1. PROVIDE NEW PIPE: ASTM A53 GR B, NPS 18, SCH 40 THROUGH EXISTING SHELL.
2. PROVIDE 18-INCH AWWA C207 HUB-TYPE (WELD-NECK) STEEL FLANGE. CONTRACTOR SHALL FIELD VERIFY FLANGE OUTSIDE DIAMETER, BOLT CIRCLE DIAMETER, NUMBER OF BOLT HOLES, AND BOLT HOLE DIAMETER TO MATCH EXISTING HUB-TYPE FLANGE. FLANGE SHALL HAVE MATCHING DRILLING AND A FLAT-FACE FINISH. DO NOT USE A RAISED-FACE FLANGE AGAINST A DUCTILE IRON FLAT-FACE FLANGE. PROVIDE FLAT-FACE STEEL FLANGE.
3. PROVIDE NEW GASKET: FULL-FACE EPDM (POTABLE WATER), 1/8" THICK, AWWA C111 (TYTON COMPATIBLE) OR APPROVED EQUAL.
4. PROVIDE FINISHED HOLE DIAMETER = 19.50" (0.75" DIAMETRAL CLEARANCE TO 18.00" OD PIPE; 0.375" RADIAL).
5. PROVIDE TOMBSTONE REINFORCING (DOUBLER) PLATE:
   MATERIAL: ASTM A36
   THICKNESS: 1.00"
   WIDTH (HORIZONTAL): 40.0" (CENTERED ON NOZZLE CL)
   TOP SHAPE: R = 20.0" (SEMICIRCULAR TOP)
   OVERALL HEIGHT: 30.0" MIN (SEE NOTE 6 FOR BOTTOM LOCATION)
   ALL EXPOSED EDGES SHALL BE SMOOTHED; MIN 1/8" EDGE BREAK
6. LOCATE BOTTOM FLAT EDGE OF TOMBSTONE PLATE TO PROVIDE 2" CLEAR OF THE FLOOR-TO-SHELL JOINT / FLOOR-PLATE PROJECTION / CHIME WELD REGION (DO NOT OVERLAP THE FLOOR/SHELL FILLET WELD).
7. REINFORCEMENT PLATE SHALL BE SHOP-ROLLED (COLD FORMED) TO MATCH THE CURVATURE OF THE EXISTING SHELL PRIOR TO INSTALLATION. FIELD HEAT-FORMING OR WELD-FORCING THE PLATE INTO CONTACT WITH THE SHELL IS NOT PERMITTED.
8. THE GAP BETWEEN THE DOUBLER PLATE AND SHELL PLATE PRIOR TO WELDING SHALL NOT EXCEED 1/16" AT ANY LOCATION.
9. BOTH SIDES OF THE REINFORCING PLATE SHALL BE SHOP SURFACE PREPARED TO SSPC-SP 10 BARE METAL TO REMOVAL ALL MIL SCALE.
10. PROVIDE (1) 1/4" DIAMETER WEEP HOLE THROUGH DOUBLER PLATE AT THE LOWEST POINT OF THE DOUBLER (IMMEDIATELY ABOVE THE FLAT EDGE) TO PREVENT PRESSURE TRAPPING.
11. ALL WELDING SHALL USE QUALIFIED WPS/PQR APPROPRIATE FOR EXISTING MATERIAL AND THICKNESSES. PREHEAT/INTERPASS PER WPS AND AMBIENT CONDITIONS.
12. PIPE-TO-FLANGE WELD: PROVIDE COMPLETE JOINT PENETRATION (CJP) GROOVE WELD, FULL CIRCUMFERENCE. JOINT PREPARATION, ROOT OPENING, BACK-GOUGING, AND PREHEAT SHALL CONFORM TO QUALIFIED WPS. FINAL WELD SHALL BE GROUND SMOOTH AT INSIDE FACE TO REMOVE CREVICES.
13. PIPE-TO-SHELL JOINT PREPARATION:
    PROVIDE BEVEL ON PIPE END (TYP 35°–37.5°)
    ROOT OPENING: 1/8" (±1/16) OR PER QUALIFIED WPS
    REMOVE ALL COATINGS AND MILL SCALE MINIMUM 2" FROM WELD ZONE
    SHELL EDGE SHALL BE CLEAN, TRUE, AND FREE OF LAMINATIONS
    BACK-GOUGE AND CLEAN PRIOR TO WELDING SECOND SIDE
14. WELD SEQUENCE: FIRST SIDE ROOT PASS → BACK GOUGE TO SOUND METAL → COMPLETE SECOND SIDE WELD → COMPLETE FIRST SIDE FILL AND CAP.
15. NEW PIPE SECTION, FLANGE, AND EXISTING TANK SHELL SHALL BE SURFACE PREPARED TO SSPC-SP 10, BARE METAL TO REMOVE MIL SCALE AND EXISTING COATINGS. COAT THE PIPE SECTION, FLANGE, SHELL PLATE AND REINFORCING PLATE PER THE COATING SYSTEM OUTLINED IN THE RFP.

ABBREVIATIONS:

APPROX	APPROXIMATE
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
CONT	CONTINUOUS
D.I.	DUCTILE IRON
GR	GRADE
MIN	MINIMUM
NPS	NOMINAL PIPE SIZE
OD	OUTSIDE DIAMETER
PQR	PROCEDURE QUALIFICATION RECORD
QTY	QUANTITY
RE:	REFERENCE
REQ'D	REQUIRED
RFP	REQUEST FOR PROPOSAL
SCH	SCHEDULE
SP	SURFACE PREPARATION
SSPC	SOCIETY FOR PROTECTIVE COATINGS
WPS	WELDING PROCEDURE SPECIFICATION
°	DEGREE
Ø	DIAMETER
℄	CENTERLINE
"	INCH

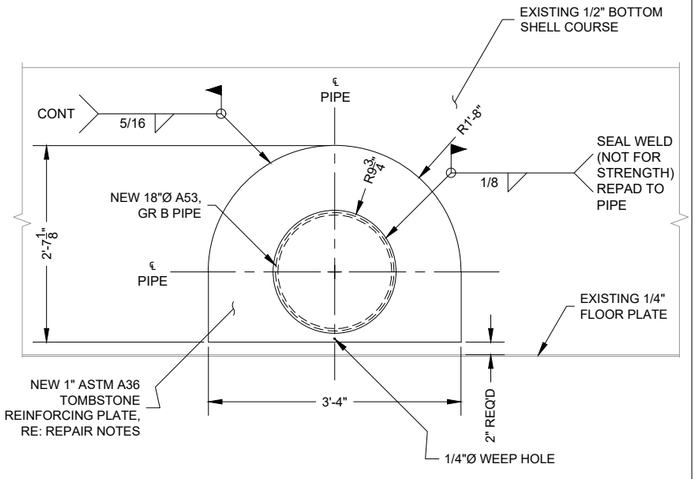
LEGEND:

DEMOLITION



B REPAIR SECTION

SCALE: 1" = 1'-0"



C REPAIR ELEVATION

SCALE: 1" = 1'-0"

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Project
WATER TREATMENT PLANT SOUTH TANK RECOATING PROJECT

No.	Revision/Issue	Date

Project No.:	2026-COGJ-WTP S TANK
Drawn By:	TAW
Checked By:	WWS
Drawing Date:	02.05.2026

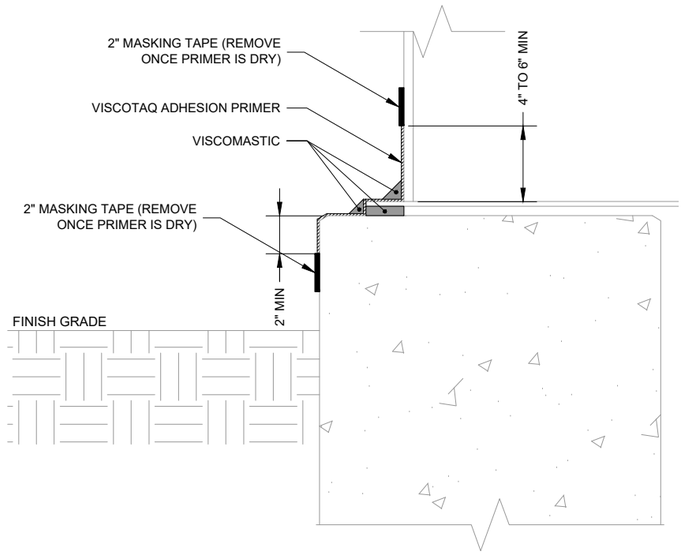
Sheet Title
SHELL NOZZLE SECTIONS AND DETAILS

Sheet No
S001

Sheet of Sheet

NOTE:

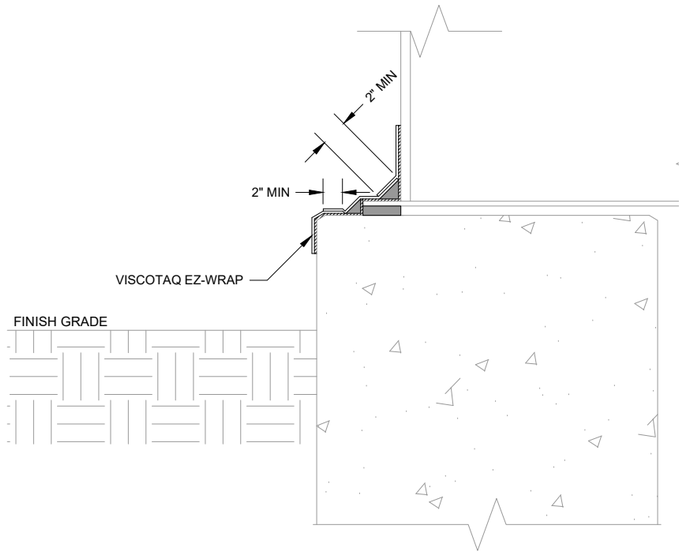
1. REFER TO SHEET NOTES FOR SURFACE PREPARATION OF STEEL AND CONCRETE SURFACES AND FOR APPLICATION OF THE PRIMER AND MASTIC.



1 GAP FILLER AND ADHESION PRIMER
SCALE: NTS

NOTE:

1. REFER TO SHEET NOTES FOR APPLICATION, INSTALLATION, AND TOP COAT REQUIREMENTS.



2 VISCOTAQ EZ-WRAP SYSTEM
SCALE: NTS

JOINT REPAIR SURFACE PREPARATION NOTES:

1. THE SURFACE AREA TO BE COATED SHALL BE INSPECTED PRIOR TO COATING; KNOWN DEFECTS SHALL BE DOCUMENTED AND PHOTOGRAPHED PRIOR TO APPLICATION.
2. ANY EXISTING DAMAGED COATING SHALL BE REMOVED BEFORE OR AS PART OF THE SURFACE PREPARATION PROCESS.
3. CLEAN UNDERNEATH THE TANK TO A DEPTH ≥ 2". IF A "FELT BASE" IS PRESENT UNDER THE TANK, REMOVE THE FELT WHERE THE VISCOTAQ VISCOSEALANT IS TO BE APPLIED.
4. THE SURFACE OF THE TANK WHERE THE VISCOTAQ IS TO BE APPLIED SHALL BE CLEANED TO A MINIMUM OF ST 3/SSPC-SP3 (POWER TOOL CLEANED).
5. THE CONCRETE RINGWALL SHALL BE EXPOSED A MINIMUM OF 6" BELOW THE TOP OF CONCRETE. ELEVEN MEASUREMENTS WERE TAKEN FROM THE TOP OF CONCRETE RINGWALL TO FINISH GRADE AROUND THE TANK PERIMETER. THE MEASUREMENTS RANGED FROM A MINIMUM OF 0.75 INCHES TO A MAXIMUM OF 8.5 INCHES. HAND EXCAVATION WILL BE REQUIRED TO EXPOSE THE CONCRETE RINGWALL. RE-ESTABLISH GRADE FOLLOWING COMPLETION AND FULL CURE OF THE REPAIR.
6. MECHANICALLY ABRADE CONCRETE TO ICRI CSP-2 TO CSP-3 PROFILE.
7. POWER WASH THE APPLICATION AREA TO REMOVE ANY LOOSE PARTICLES.
8. CLEAN ALL SURFACES TO BE COATED TO SOLVENT CLEAN SSPC-SP1 USING AN OIL-FREE SOLVENT (ACETONE, DENATURED ALCOHOL, AND ISOPROPYL ALCOHOL) TO REMOVE ALL MUD, MILL LACQUER, WAX, TAR, OIL, GREASE, OR OTHER FOREIGN MATERIALS. NOTE: INDUSTRIAL-GRADE CITRUS-BASED (D-LIMONENE) PRODUCTS ARE NOT APPROVED FOR USE AS AN OIL-FREE SOLVENT.
9. DRY THE AREA WHERE VISCOTAQ IS TO BE APPLIED THOROUGHLY.
10. CLEANED AREAS SHALL HAVE A PROTECTIVE COATING APPLIED BEFORE THE END OF THE SHIFT. IF A CLEANED SURFACE IS NOT COATED, IT SHALL BE RE-CLEANED ON THE NEXT SHIFT.

APPLICATION OF DENSO VISCOTAQ SYSTEM FOR TANK CHIME SEALING:

1. MEASURE AND MASK TOP AND BOTTOM WITH 2" MASKING TAPE TO MARK AREAS WHERE THE VISCOTAQ ADHESION PROMOTER WILL BE APPLIED. THE BOTTOM MASKING STRIP SHALL START AT APPROXIMATELY 2" BELOW THE BASE FLOOR PLATE JUST BELOW THE CHIME AND CONCRETE BASE. THE TOP STRIP OF MASKING TAPE SHALL BE APPLIED APPROXIMATELY 4" TO 6" UP THE TANK WALL.
2. APPLY A THIN UNIFORM COAT OF VISCOTAQ ADHESION PROMOTER TO ALL SURFACES WITHIN THE MASKED AREA AND ALLOW IT TO TACK DRY. CARE SHALL BE TAKEN NOT TO CONTAMINATE THE SUBSTRATE OUTSIDE OF THE MASKING TAPE LIMITS. THE ADHESION PROMOTER SHALL BE APPLIED PRIOR TO ALL OTHER VISCOTAQ PRODUCTS. ONCE THE ADHESION PROMOTER HAS DRIED, REMOVE THE TOP AND BOTTOM STRIPS OF MASKING TAPE.
3. VISCOMASTIC SHALL BE USED TO SEAL ALL GAPS AND CRACKS. APPLY THE APPROPRIATE AMOUNT OF MASTIC BY HAND TO A DEPTH OF APPROXIMATELY 1" INTO THE GAP BETWEEN THE BASE OF THE TANK AND THE RING WALL. THE GAP BETWEEN THE STEEL CHIME (BASE OF THE TANK) AND THE CONCRETE RINGWALL WAS MEASURED AT ELEVEN LOCATIONS AROUND THE TANK PERIMETER. THE GAP RANGED FROM 0.313 INCHES TO A MAXIMUM OF 3.125 INCHES, WITH AN AVERAGE OF 0.78 INCHES.
4. FILL ALL SMALL VOIDS AND CRACKS AND PROFILE THE 90° TANK BASE ANGLE BY MOLDING THE VISCOMASTIC TO CREATE A 45° ANGLE TOWARD THE CONCRETE BASE. IF THE BASE HAS A STEPPED PROFILE, APPLY VISCOMASTIC AT A 45° ANGLE TOWARD THE GROUND TO CREATE A SMOOTH PROFILE FOR WRAPPING WITH THE EZ-WRAP.
5. VISCOTAQ EZ WRAP IS APPLIED BY REMOVING THE RELEASE LINER AND PLACING THE ADHESIVE SIDE ONTO THE SURFACE TO BE PROTECTED.
6. THE FIRST STRIP OF VISCOTAQ EZ WRAP SHALL START AT THE BOTTOM OF THE CONCRETE BASE, CAREFULLY ALIGNING THE EZ WRAP WITH THE OUTER EDGE OF THE ADHESION PROMOTER, INSTALLING FROM THE BOTTOM UP TO PROVIDE A WEATHERBOARD EFFECT.
7. SUBSEQUENT STRIPS OF EZ WRAP SHALL BE OVERLAPPED A MINIMUM OF 2" AND EXTEND OVER THE MASTIC ONTO THE RING WALL AND APPROXIMATELY 4" TO 6" UP THE TANK WALL, CAREFULLY ALIGNING WITH THE ADHESION PROMOTER.
8. WHEN CONNECTING ROLLS, THE EZ-WRAP SHALL BE OVERLAPPED A MINIMUM OF 1".
9. THE VISCOTAQ EZ WRAP SHALL BE GENTLY SMOOTHED BY HAND AND WITH A STEEL ROLLER TO ENSURE THERE ARE NO WRINKLES, FOLDS, OR ENTRAPPED AIR. IF REQUIRED, A HEAT GUN AND PRESSURE MAY BE USED TO ENSURE THE SEALING COMPOUND IS FULLY IMPREGNATED INTO THE POLYESTER BACKING OF THE VISCOTAQ EZ WRAP.
10. BRUSH APPLY ARCHCO 15 IN TWO COATS CONSISTING OF APPROXIMATELY 10 TO 12 MILS WET FILM THICKNESS PER COAT. RECOAT TIME FOR ARCHCO 15 IS APPROXIMATELY 1 TO 2 HOURS AT 77°F. ALL EZ-WRAP SHALL BE TOPCOATED; CARE SHALL BE TAKEN NOT TO EXTEND BEYOND THE TOP AND BOTTOM EDGES OF THE EZ-WRAP.
11. ENSURE THAT THE ENTIRE SURFACE TO BE PROTECTED IS COVERED WITH NO GAPS OR AIR POCKETS. ENSURE THAT THE CORRECT OVERLAP IS ACHIEVED.

ABBREVIATIONS:

CSP	CONCRETE SURFACE PREPARATION
ICRI	INTERNATIONAL CONCRETE REPAIR INSTITUTE
SP	SURFACE PREPARATION
SSPC	SOCIETY OF PROTECTIVE COATINGS

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Project
WATER TREATMENT PLANT SOUTH TANK RECOATING PROJECT

No.	Revision/Issue	Date

Project No.:	2026-COGJ-WTP S TANK
Drawn By:	TAW
Checked By:	WWS
Drawing Date:	02.05.2026

Sheet Title
TANK CHIME JOINT SEALANT REPAIR

Sheet No
S002

Sheet of Sheet

VISCOTAQ™ TANK CHIME SEALING SYSTEM

Viscotaq™ is a visco-elastic synthetic material that remains flexible and tacky during its entire life. Since the floor plate of a tank is constantly moving during the filling and emptying process, flexibility and aggressive adhesion is of utmost importance. The Viscotaq™ Tank Chime Sealing System is used to prevent water infiltration at the concrete ring wall interface of the tank, a place where corrosion normally occurs. The Viscotaq™ Tank Chime Sealing System can be installed on new and existing facilities, can be painted immediately after installation and does not interfere with any future paint, inspection and maintenance programs according to API 653.

COMPOSITION

Viscotaq™ is a non-crystalline, a-polar, viscous elastic (visco-elastic), solid-polyolefin coating for corrosion prevention and waterproofing of underground and aboveground substrates.

Viscotaq's molecular chemistry is unique and designed in such a way that the viscosity gives it permanent wetting characteristics and the elasticity of the product provides the strength and feeling of a solid. The Viscotaq compound bonds to the substrate by means of Van der Waals principles, penetrating the pores and anomalies of the substrate. The compound remains in intimate contact with the substrate creating an impermeable homogeneous waterproof seal.

FEATURES

- Easy to apply
- Cold applied
- Environmentally friendly
- No primers
- UV resistant
- Permanent flexibility
- Permanent adhesion
- SP 2 cleaning
- Long-term protection
- Non toxic
- Weather/salt resistant and freeze/thaw resistant
- Up to 160°F (higher temp. system available, contact us for more information)
- Moulds and forms easily
- Manufactured under ISO 9001 standards
- Made in the USA
- 70 mils - thick wrap
- Tested to latest ASTM and CSA standards

COMPONENTS

Viscotaq™ ViscoSealant, Densyl Mastic, Viscotaq™ ViscoMastic or ViscoMastic XHT, and Viscotaq™ EZ Wrap

Archco 15™ Water-Based Acrylic - Temperatures up to 150˚F (65˚C)
Archco 65™ Aliphatic Polyurethane - Temperatures up to 200˚F (93˚C)

METHOD OF APPLICATION

1. Surface Preparation:

The surface area to be coated should be inspected prior to coating; known defects must be documented and photographed prior to application.

- Any existing damaged coating shall be removed before or as part of the surface preparation process.
- Clean underneath the tank to a depth ≥ 2" (5 cm). If a "felt base" is present under the tank, remove the felt where the Viscotaq ViscoSealant is to be applied.
- The surface of the tank where the Viscotaq is to be applied shall be cleaned to a minimum of St 2/SSPC-SP2 (Hand Tool Cleaned); however, where possible to St 3/SSPC-SP3 (Power Tool Cleaned).
- Power wash the application area to remove any loose particles.
- Dry the area where Viscotaq is to be applied.
- Clean all surfaces to be coated to Solvent Clean SSPC-SP1, using an Oil Free Solvent (Acetone, Denatured Alcohol, and Isopropyl alcohol) to remove all mud, mill lacquer, wax, tar, oil, grease, or other foreign particles. **NOTE:** Industrial grade citrus-based (d-Limonene) products are not approved for use as an oil free solvent.

Cleaned areas shall have a protective coating applied before the end of the shift. If a cleaned surface does not get coated, it shall be re-cleaned on the next shift.

(Continued →)

VISCOTAQ™ TANK CHIME SEALING SYSTEM

2. Viscotaq™ ViscoSealant

NOTE: Pneumatic applicator gun is strongly recommended.

NOTE: Warm sealant cartridges when applying in cold environments.

Viscotaq ViscoSealant should be > 65°F (18°C) when applying.

- ViscoSealant shall be applied with an applicator gun at a minimum of 1" (2.5 cm) deep into the gap between the base of the tank and the ring wall.
- Use a putty knife when needed to smooth the product and to ensure material is packed into the gap. Apply with as few air pockets as possible.
- A backer should be used on tanks where the gap between the ring wall/base materials and the floor plate is ≥ 2" (5 cm).

Densyl Mastic, or Viscotaq™ ViscoMastic, or Viscotaq™ ViscoMastic XHT

- The appropriate mastic shall be applied by hand at a minimum of 1" (2.5 cm) deep into the gap between the base of the tank and the ring wall.
- Mold the product in place and create a 45° angle.
- A backer should be used on tanks there the gap between the ring wall/base materials and the floor plate is ≥ 2" (5 cm).

3. Viscotaq™ EZ Wrap

- Viscotaq EZ Wrap is applied by removing the release liner and placing the adhesive side onto the surface to be protected.
- Viscotaq EZ Wrap shall be started at the weld of the shell and the floor plate, also extended over the sealant onto the ring wall or base material.
- Extension of the floor plate from the weld where the shell connects should be ≥ 2" (5 cm) to ensure proper adhesion.
- If the floor plate does not extend 2" (5 cm) or greater from the shell, the Viscotaq EZ Wrap can be extended up the shell covering the weld.
- Once the Viscotaq EZ Wrap is applied to the floor plate, apply to the other side to the ring wall/base material.
- A minimum of 2" (5 cm) of Viscotaq EZ Wrap shall be applied onto the ring wall/base materials. (Viscotaq EZ Wrap is manufactured in different widths. When selecting materials make sure to choose a width wide enough to ensure a 2" (5 cm) overlap onto the ring wall/base materials)
- When applying Viscotaq EZ Wrap, remember that the tank can flex, therefore allow for movement.
- The Viscotaq EZ Wrap shall be gently smoothed by hand to ensure there are no wrinkles, folds, or entrapped air.
- Overlap Viscotaq EZ Wrap ≥ 1" (2.5 cm) when connecting rolls. When overlapping the Viscotaq EZ Wrap, one may cut slits in the product and alternate the overlap to improve adhesion. If a standard overlap is used (or for any area where overlapping Viscotaq EZ Wrap), add heat and pressure to make sure a proper bond is created between the Viscotaq EZ Wrap products. Use the heat and pressure to make sure the sealing compound is fully impregnated in the polyester backing of the Viscotaq EZ Wrap.
- Use a roller over the Viscotaq EZ Wrap to ensure that it has completely adhered to the substrate.
- Paint Viscotaq EZ Wrap with Archco 15™ topcoat to prevent any breakdown due to possible UV Rays as well as to add strength to the system. Paint should also prevent possible molding or fungus growth where the product might stay wet or moist. The Archco 15™ high-build flexible water-based acrylic topcoat is recommended for use for regular temperatures and the Archco 65™ high solids aliphatic polyurethane is recommended for high temperatures.

Ver 2208.30

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Tank Base Protection System - Viscotaq™ System

Specification Guide

1.0 Scope

1.1 This specification may be used for protecting tank bases and chimes with Denso Viscotaq products.

1.2 The Engineer shall select appropriate sections of the specification to ensure that the specification is comprehensive for specified work.

2.0 General Requirements

2.1 Contractor shall comply with all written recommendations of the manufacturer regarding applications of the specified system.

2.2 To obtain the specified materials, contact Denso, Inc., 9710 Telge Road, Houston, TX 77095, (Tel) 281-821-3355 (Fax) 281-821-0304 or 90 Ironside Crescent Unit 12, Toronto, Ontario, Canada M1X1M3, (Tel) 416-291-3435 (Fax) 416-291-0898. E-mail: info@densona.com.

3.0 Materials

3.1 **Viscotaq ViscoMastic or Viscotaq ViscoMastic XHT**

3.1.1 Viscotaq ViscoMastic and Viscotaq ViscoMastic XHT shall be comprised of an amorphus, apolar, visco-elastic, semi-solid and polyolefin mastic. The ViscoMastic XHT has been formulated for high temperatures up to 257°F (125°C).

3.1.2 The physical specification values shall meet the values given on the data sheet.

3.2 **Viscotaq Adhesion Promoter**

3.2.1 Viscotaq Adhesion Promoter shall be comprised of a quick drying, solvent-based, high tack adhesion promoter based upon the unique amorphous and semi-solid Viscotaq polymer technology.

3.2.2 The physical specification values shall meet the values given on the data sheet.

3.3 **Viscotaq EZ Wrap**

3.3.1 Viscotaq EZ Wrap Tape shall be comprised of an amorphous, apolar, visco-elastic, semi-solid, polyolefin with a paintable fabric backing.

3.3.2 The physical specification values shall meet the values given on the data sheet.

3.4 **Archco 15 or Archco 65 Top Coat**

3.4.1 Archco 15 shall be a high build flexible acrylic topcoat. It is a high impact topcoat that provides excellent UV & abrasion resistance and flexibility when applied over Viscotaq EZ Wrap. It can be used on tank base applications up 150°F (65°C).

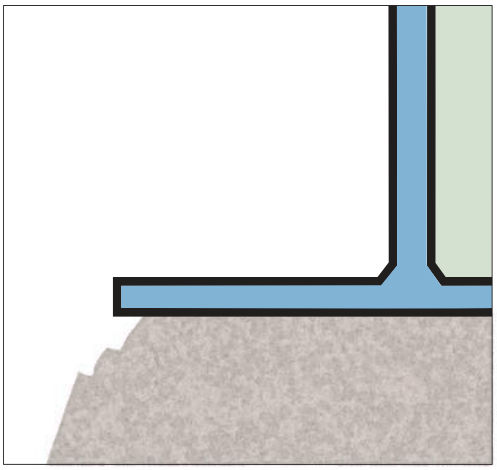
3.4.2 Archco 65 shall be a high solids, two-part aliphatic polyurethane topcoat. It is a topcoat that provides long-term protection and aesthetic enhancement of structures when applied over Viscotaq EZ Wrap. It is primarily used for higher temperatures on tank base applications up to 200°F (93°C).

3.4.3 The physical specification values shall meet the values given on the data sheet.

4.0 General Surface Preparation Requirements

4.1 The surface area to be coated should be inspected prior to coating; known defects must be documented and photographed prior to application.

4.2 Any existing damaged coating shall be removed before or as part of the surface preparation process.



4.3 The surface of the tank where the Viscotaq is to be applied shall be cleaned to a minimum of St 2/SSPC-SP2 (Hand Tool Cleaned); however, where possible to St 3/ SSPC-SP3 (Power Tool Cleaned).

4.4 Power wash the application area to remove any loose particles.

4.5 Clean all surfaces to be coated to Solvent Clean SSPC-SP1, using an oil-free solvent (Acetone, Denatured Alcohol, and Isopropyl alcohol) to remove all mud, mill lacquer, wax, tar, oil, grease, or other foreign particles.

NOTE: Industrial-grade citrus-based (d-Limonene) products are not approved for use as an oil-free solvent.

4.6 Dry thoroughly the area where Viscotaq is to be applied.

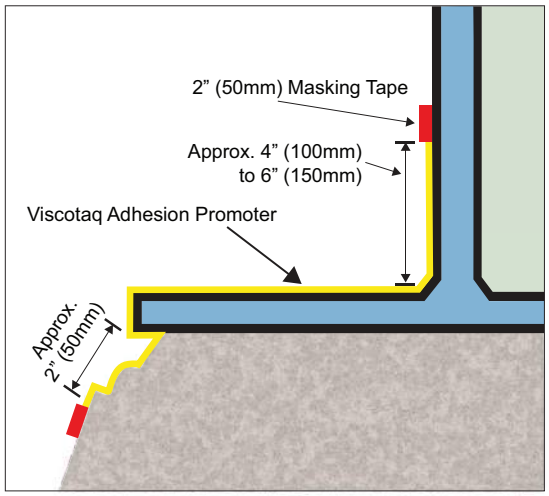
4.7 Cleaned areas shall have a protective coating applied before the end of the shift. If a cleaned surface does not get coated, it shall be re-cleaned on the next shift.

5.0 Application of Denso Viscotaq System for Tank Chime Sealing

5.1 Viscotaq Adhesion Promoter

5.1.1 Measure and mask top and bottom with 2” (50 mm) masking tape to mark areas where the Viscotaq Adhesion Promoter will be applied. The bottom masking strip shall start at approximately 2” (50 mm) below the base floor plate just below the chime and concrete base. The top strip of masking tape shall be applied approximately 4” (100 mm) to 6” (150 mm) up the tank wall.

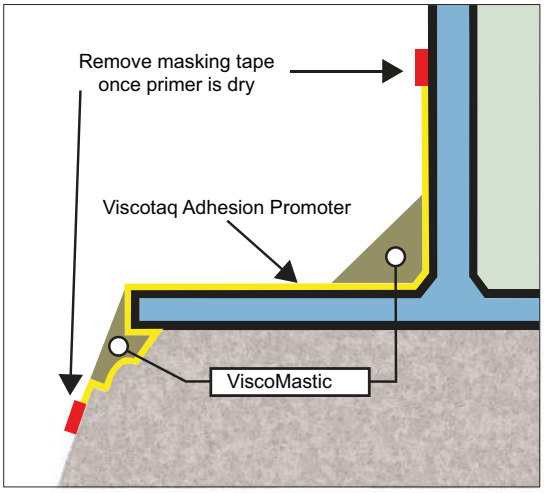
5.1.2 Apply a thin uniform coat of Viscotaq Adhesion Promoter to all surfaces within the masked area and allow it to tack dry. Care must be taken not to contaminate the substrate outside of the measured masking tape areas. The Adhesion Promoter should be applied prior to all other Viscotaq products. Once the Adhesion Promoter is dry to touch, remove the top and bottom strips of masking tape.



5.2 Viscotaq ViscoMastic, or Viscotaq ViscoMastic XHT

5.2.1 The ViscoMastic shall be used to seal all gaps/cracks. The appropriate amount of ViscoMastic shall be applied by hand at approximately 1" (2.5 cm) deep into the gap between the base of the tank and the ring wall.

5.2.2 Fill all small voids, cracks and profile the 90° tank base angle by molding the ViscoMastic to create a 45° angle toward the concrete base. Should the base feature a stepped profile, apply ViscoMastic at a 45° angle toward the ground in order to create a smooth profile for wrapping with the EZ-Wrap.



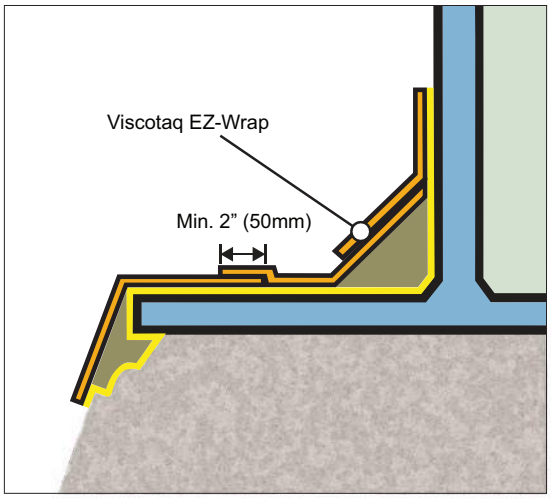
5.3 Viscotaq EZ Wrap

5.3.1 Viscotaq EZ Wrap is applied by removing the release liner and placing the adhesive side onto the surface to be protected.

5.3.2 The first strip of Viscotaq EZ Wrap should start from the bottom of the concrete base, carefully aligning the EZ Wrap with the outer edge of the Adhesion Promoter. Thus, starting from the bottom up providing a weatherboard effect.

5.3.3 Subsequent strips of EZ Wrap shall be overlapped by a minimum of 2” (50 mm) and extend over the mastic onto the ring wall and going up approximately 4” (100 mm) to 6” (150 mm) up the tank wall to carefully align with the Adhesion Promoter.

5.3.4 When connecting rolls the EZ-Wrap should be overlapped a minimum 1" (2.5 cm).

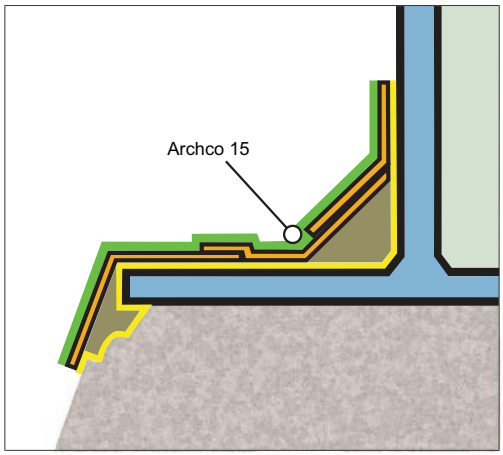


5.3.5 The Viscotaq EZ Wrap shall be gently smoothed by hand and steel roller to ensure there are no wrinkles, folds, or entrapped air. If required you may use a heat gun and pressure to make sure the sealing compound is fully impregnated in the polyester backing of the Viscotaq EZ Wrap.

5.4 **Archco 15 or Archco 65 Top Coat**

5.4.1 Prior to applying Archco 15 we recommend applying masking tape approximately ½" (13 mm) above the top and bottom edges of the EZ-Wrap. Brush apply the Archco 15 in two coats consisting of approximately 10 to 12 mils (254 - 305 microns) wet-film thickness per coat. Recoat time of Archco 15 is approximately 1 to 2 hours at 77°F (25°C). All EZ-Wrap should be top coated including all edges. Once Archco 15 is dry, remove masking tape. Archco 15 shall only be used on tank bases at regular temperatures up 150°F (65°C).

5.4.2 For tank bases that require higher temperature the Archco 65 shall be used. Prior to applying Archco 65 we recommend applying masking tape approximately ½" (13 mm) above the top and bottom edges of the EZ-Wrap. Brush apply Archco 65 in two coats consisting of approximately 5 to 8 mils (125 - 203 microns) wet-film thickness per coat. Recoat time of Archco 65 is approximately 6 to 8 hours at 77°F (25°C). All EZ-Wrap should be top coated including all edges. Once Archco 65 is dry, remove masking tape. Archco 65 shall only be used on tank bases at high temperatures up 200°F (93°C).



5.5 **Inspection**

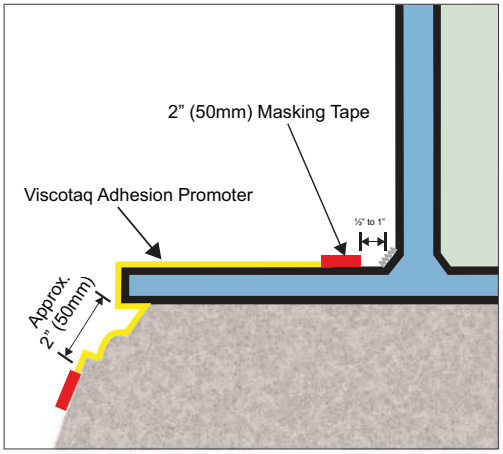
5.5.1 Ensure that the entire surface to be protected is covered with no gaps or air pockets. Ensure that the correct overlap is achieved.

6.0 Application of Denso Viscotaq System for Tank Chime Sealing for API-653 Standard

6.1 **Viscotaq Adhesion Promoter**

6.1.1 Measure and mask top and bottom with 2" (50 mm) masking tape to mark areas where the Viscotaq Adhesion Promoter will be applied. The bottom masking strip shall start at approximately 2" (50 mm) below the tank base floor plate just below the chime and concrete base. The top strip of masking tape shall be applied min. 2" before the weld joint at the base plate and tank wall, leaving the flat area of the base plate exposed so that it can be coated with Adhesion Promoter. The weld joint shall not be coated with the Adhesion Promoter. The weld joint shall remain visible once all products are applied so that future weld inspections may be completed.

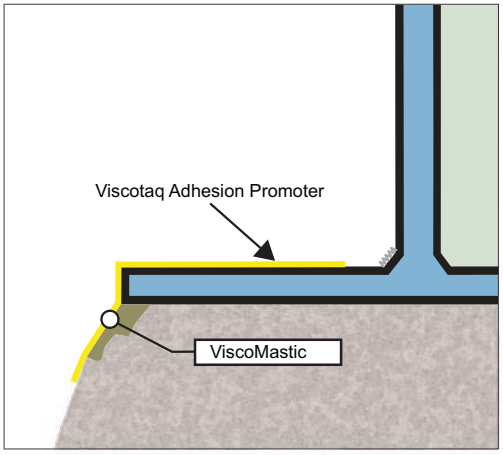
6.1.2 Apply a thin uniform coat of Viscotaq Adhesion Promoter to all surfaces within the masked area and allow it to tack dry. Care must be taken not to contaminate the substrate outside of the measured masking tape areas. The Adhesion Promoter should be applied prior to all other Viscotaq products. Once the Adhesion Promoter is dry to touch, remove the top and bottom strips of masking tape.



6.2 **Viscotaq ViscoMastic, or Viscotaq ViscoMastic XHT**

6.2.1 The ViscoMastic shall be used to seal all gaps/cracks. The appropriate amount of mastic shall be applied by hand at approximately 1" (2.5 cm) deep into the gap between the base of the tank and the ring wall.

6.2.2 Fill all small voids, cracks. Should the tank base feature a stepped profile, apply ViscoMastic at a 45° angle toward the ground in order to create a smooth profile for wrapping with the EZ-Wrap.



6.3 **Viscotaq EZ Wrap**

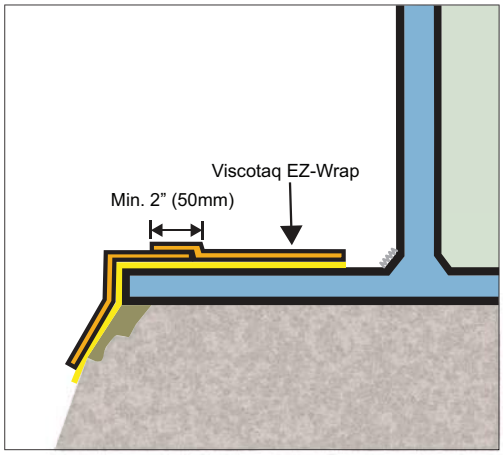
6.3.1 Viscotaq EZ Wrap is applied by removing the release liner and placing the adhesive side onto the surface to be protected.

6.3.2 The first strip of Viscotaq EZ Wrap should start from the bottom of the concrete base, carefully aligning the EZ Wrap with the outer edge of the Adhesion Promoter. Thus, starting from the bottom up providing a weatherboard effect.

6.3.3 Subsequent strips of EZ Wrap shall be overlapped by a minimum of 2” (50 mm) and extend over the mastic onto the tank base plate and terminate before the weld joint of the base plate and tank wall carefully aligning the EZ Wrap with the edge of the Adhesion Promoter.

6.3.4 When connecting rolls the EZ-Wrap should be overlapped a minimum 1" (2.5 cm).

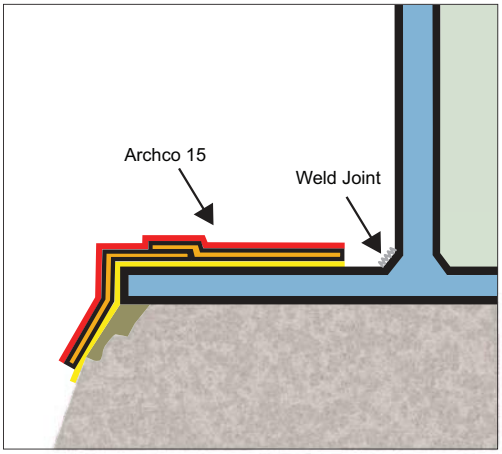
6.3.5 The Viscotaq EZ Wrap shall be gently smoothed by hand and steel roller to ensure there are no wrinkles, folds, or entrapped air. If required you may use a heat gun and pressure to make sure the sealing compound is fully impregnated in the polyester backing of the Viscotaq EZ Wrap.



6.4 **Archco 15 or Archco 65 Top Coat**

6.4.1 Prior to applying Archco 15 we recommend applying masking tape approximately ½” (13 mm) above the top and bottom edges of the EZ-Wrap. Brush apply the Archco 15 in two coats consisting of approximately 10 to 12 mils (254 - 305 microns) wet-film thickness per coat. Recoat time of Archco 15 is approximately 1 to 2 hours at 77°F (25°C). All EZ-Wrap should be top coated including all edges. Once Archco 15 is dry, remove masking tape. Archco 15 shall only be used on tank bases at regular temperatures up 150°F (65°C).

6.4.1 For tank bases that require higher temperature the Archco 65 shall be used. Prior to applying Archco 65 we recommend applying masking tape approximately ½” (13 mm) above the top and bottom edges of the EZ-Wrap. Brush apply Archco 65 in two coats consisting of approximately 5 to 8 mils (125 - 203 microns) wet-film thickness per coat. Recoat time of Archco 65 is approximately 6 to 8 hours at 77°F (25°C). All EZ-Wrap should be top coated including all edges. Once Archco 65 is dry, remove masking tape. Archco 65 shall only be used on tank bases at high temperatures up 200°F (93°C).



6.5 **Inspection**

6.5.1 Ensure that the entire surface to be protected is covered with no gaps or air pockets.Ensure that the correct overlap is achieved and that the weld joint at the base plate and tank wall has not been covered.

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VISCOTAQ™ ADHESION PROMOTER

Quick Drying, Solvent-based, High Tack Adhesion Promoter

Description

Viscotaq Adhesion Promoter is a quick drying, solvent-based, high tack adhesion promoter based upon the unique amorphous Viscotaq polymer technology and is designed to add maximum adhesion for specific Viscotaq products and applications.

Uses

- Tank chimes
- Applications on concrete and other surfaces that require additional adhesion
- Viscotaq products that do not have a compressive outerwrap

Features

- Fills surface irregularities for intimate contact of Viscotaq compound
- Promotes high adhesion
- Fast drying
- Very good penetration characteristics
- Applied to marginally prepared surfaces (SSPC SP 2-3)
- Can be applied by brush or spray

Surface Prep

Surface preparation is very important and will improve the adhesion and extend the life of the Viscotaq system. Surface preparation should include the following:

1. Surface must be at least 40°F (4°C) prior to application.
2. Surface must be sound and free of loose rust, loose concrete and any old existing coatings. New concrete should hydrate a minimum of 5 days prior to application of the Viscotaq Adhesion Promoter.
3. Remove all oils, greases, dirt and wax solutions from the surface.
4. Wire-brush, high-pressure waterblast, sandblast or shot-blast the surface to remove contaminants that will interfere with proper adhesion. Waterblast shall be done at a minimum of 3,500 psi (24 MPa).

Application

Apply a thin uniform coat of Viscotaq Adhesion Promoter to the cleaned surface and allow it to tack dry. Apply tape to the areas where Viscotaq Adhesion Promoter has been applied only. Reapply area Promoter if the area becomes dirty or wet.

Denso®

TECHNICAL DATA SHEET

Storage

Minimum 2 Years when @ 40°F (4°C) to 105°F (41°C).

Cleaning

MEK or equivalent solvent cleaner.

HSE

Wear protective clothing and ensure adequate ventilation. Avoid contact with skin and eyes. Do not ingest. See Safety Data Sheet (SDS) for further information.

Packaging

Volume	Container* /Case	Coverage Per Case
size	ea.	ea.
1 gal. (3.78 L)	4	980 ft^2/case (90 m^2/case)

Tech Data

Properties	Imperial	*Metric*
% Solids	46% by wt.	*46% by wt.*
Viscosity @ 73°F (23°C)	200 cps	*200 cps*
VOC	450 gal./L	*450 gal./L*
Minimum Application Temperature	25°F	*-4°C*
Coverage	245 ft^2/gal.	*23 m^2/qt.*
Color	Blue	*Blue*

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VISCOTAQ EZ WRAP

Amorphous, Apolar, Visco-Elastic, Semi-Solid, Polyolefin Coating

Description

Viscotaq EZ Wrap is an amorphous, apolar, visco-elastic, semi-solid, polyolefin coating with a paintable backing for corrosion prevention of underground and aboveground substrates. It is part of the Viscotaq coating system which consists of a corrosion protective sealant or mastic covered by the EZ Wrap and a mechanical protective outer layer, if required. This coating system offers exceptional corrosion prevention and waterproofing for a variety of substrates.

Uses

- Coating for concrete, steel, PVC, metal, wood, vinyl, and other coatings
- Soil-to-air transitions
- Pipe, flanges, valves and fittings
- Girth welds
- Buried pipelines with minimal surface preparation
- Waterproofing of gravity-fed pipes, manholes, seams, penetrations, and cracks
- CUI applications
- End seal for pipe casing
- Tank chimes
- Waterproofing for bell and spigot joints

Features

- Impermeable to moisture and gases
- Immediate adhesion to substrate / permanent wetting characteristics
- No primer needed
- Easy to apply, no mixing or messy clean-up
- Minimal surface preparation required (SP2-wire brush)
- Excellent cathodic protection / low cathodic disbondment
- Self-healing characteristics
- Inert material, no deterioration over time
- Resistant to aggressive soil conditions such as water, acid, salts, or soil organics
- Quick long-term protective coating, ready for immediate service
- Contains no solvents, no carcinogens, non-toxic, non-flammable
- Contains fire retardant materials and self-extinguishing
- UV resistant and never cracks or becomes brittle
- Flexible, pliable, conforms to irregular shapes easily
- Freeze / thaw resistant
- Thermal resistance from -45°F to 158°F (-45°C to 70°C)
- Ability to fill voids and anomalies of substrate
- Meets NACE 0109 and ISO 21809-3
- Available in high temperature grade

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Surface Prep

Surface preparation should include the following:

- Surface inspected prior to application with any defects documented.
- Minimum surface preparation should be ST2/SSPC-SP2 (Hand Tool Clean).
- Once loose material are removed, clean surface with denatured alcohol or acetone to remove any remaining dust, grease, and moisture.
- Surface of substrate should be 5°F (3°C) or greater above the dew point.
- Keep the working area clean and dry at all times. Avoid the presence of water.

Any adjacent coating should be roughened by means of sandpaper or a grinding machine, if applicable. Suggested overlap onto existing coating is 4" - 6" (100mm - 150mm).

Application

Prior to the application of Viscotaq EZ Wrap, seal cracks, seams, etc. with Densyl Mastic or ViscoMastic. After this, Viscotaq EZ Wrap is applied in the following manner:

- Remove the release liner and place the adhesive side onto the substrate.
- The initial wrap should be a straight circumferential wrap.
- Wrap at an angle to create a smooth overlap and to ensure no air pockets are formed during wrapping.
- For coating repairs, flat application areas and difficult to reach areas, EZ Wrap can be applied in pieces, strips, or individual circumferential wraps (cigarette wrap).

After wrapping of Viscotaq EZ Wrap is completed, paint EZ Wrap with Archco 15, a high build flexible water-based acrylic topcoat. Archco 15 shall be applied in two coats consisting of 18 to 23 mils (457 – 584 microns) wet film thickness per coat. Recoat time is approximately 1 to 2 hours at 77°F (25°C).

For tank base applications see Tank Chime Sealing System Application instructions.

Storage

Store in a dry, well-ventilated area between 40°F and 140°F (4°C to 60°C) in original, unopened containers. Shelf life is unlimited under these conditions. It is recommended that all components be stored between 68°F to 86°F (20°C to 30°C) for 24 hours prior to use for optimum product application characteristics.

Due to the adhesive nature of the product, release films / papers should be kept in place during storage and whenever the material is placed on its side after removal from the case.

TECHNICAL DATA SHEET

Packaging

Tape Width	Tape Length	Rolls*/ Case
in.	ft.	ea.
2" (50 mm)	24' (7.3 m)	12
4" (100 mm)	24' (7.3 m)	8
6" (150 mm)	24' (7.3 m)	4
12" (300 mm)	24' (7.3 m)	4

Tech Data

Properties	Imperial	*Metric*
Material State	Semisolid	*Semisolid*
Thickness (ISO 4593:1993E)	>70 mils	*>1.8 mm*
Density (DIN 53479)	1.1-1.4	*1.1-1.4*
Glass Transition Temperature (ASTM E1356)	-45.26°F	*-42.92°C*
Softening Point (ASTM E1356)	306°F	*152°C*
Water Vapor Permeability (ASTM E96/96M)	<5.6 x 10^{-4} lb/day/ft^2/psi	*<4 x 10^{-4} g/day/m^2/Pa*
Water Absorption (ISO 62)	<0.03%	*<0.03%*
Cathodic Disbondment at 73°F (23°C) (ASTM G8/ISO 21809-3)	0 mm (Self-healing)	*0 mm (Self-healing)*
Volume Resistivity (ASTM D257)	>8.7 x 10^{12} ohm*in	*>2.2 x 10^{13} ohm*cm*
Surface Resistivity (ASTM D257)	>6.0 x 10^{16} ohm*ft^2	*>5.6 x 10^{15} ohm*m^2*
Thermal Resistance	-45°F to 158°F	*-45°C to 70°C*
Dielectric Strength (ASTM D149)	>445 KV/in	*>17.5 kV/mm*
Impact Strength (ISO 21809-3 Annex D)	>133 in-lb_f	*>15 J (Immediate)*
Indentation (ISO 21809-3 Annex E	No holidays	*No holidays*
UV/Weather Cycle Test (ASTM D4587, 1000 Hours	Excellent, rating 10	*Excellent, rating 10*
Wet Adhesion Test (CSA Z245-20 Sec. 12.14)	Excellent	*Excellent*
Chemical Resistance in Aggressive Soils Tested in Sulfuric Acid (30%), Nitric Acid (10%), Phosphoric Acid (20%), Hydrochloric Acid (10%)	Excellent No deterioration, 72 hours at 158°F / No corrosion, 72 hours at 158°F	*Excellent* *No deterioration, 72 hours at 70°C / No corrosion, 72 hours at 70°C*

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TECHNICAL DATA SHEET

Archco 15™

High Build Flexible Water Based Acrylic Topcoat

Description

Archco 15 is a single-part, high-build, high-performance water-based acrylic topcoat for Denso Tape Systems and the Viscotaq™ EZ Wrap Series.

Uses

Developed to be used as a topcoat over Denso Petrolatum Tapes, Viscotaq™ EZ Wrap Series, and Denso Glass Outerwrap™. Can also be used in conjunction with the Denso Tank Base Protection System as a topcoat for Viscotaq™ EZ Wrap Tape.

Features

- UV resistant
- Single component
- Environmentally friendly
- Can be applied by brush or spray
- Flexible
- Cures at temperatures down to 50°F (10°C)
- Fast dry
- Weather resistant

Application

The surface to be top coated shall be clean, dry, and free of any dust or foreign matter.

Brush Applications: Archco 15 can be applied immediately after the application of the Denso Tape Systems. Archco 15 shall be applied in two coats consisting of 18 to 23 mils (457 - 584 microns) wet-film thickness per coat. Recoat time is approximately 1 to 2 hours at 77°F (25°C).

Spray Applications: An equivalent to a Graco 56:1 airless with 3/8" (9.5 mm) hose with a tip size of 0.031" to .035" (0.8 to 0.9 mm) shall be used. Archco 15 shall be applied in two coats consisting of 18 to 23 mils (457 - 584 microns) wet-film thickness per coat. Recoat time is approximately 1 to 2 hours at 77°F (25°C).

Storage

Minimum 2 years when stored in original containers at 50°F (25°C) to 105°F (41°C).

Denso®

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TECHNICAL DATA SHEET

Cleaning

Clean equipment with soap and water.

HSE

Wear suitable protective clothing and glasses. See Safety Data Sheets (SDS).

Packaging

5 gallon container (19 liter container).

Tech Data

Properties	Imperial	*Metric*
Solids by Weight	55%	*55%*
Weight	10.71 lbs/gal	*(1.28 kg/L)*
Flash Point	144°F	*(62°C)*
VOC's	0.36 lbs/gal	*(43 grams/liter)*
Viscosity @ 77°F (25°C)	Brookfield #6 spindle 10 rpm – 36,500 cP	
		100 rpm – 6,000 cP
Recommended Dry Film Thickness - per coat x 2 coats	10 to 12 mils	*254 - 305 microns*
Recommended Wet Film Thickness - per coat x 2 coats	18 to 20 mil	*457 - 508 microns*
Application Temperature	50°F to 130°F	*25°C to 54°C*
Color	Black or White	
Theoretical Coverage	44 SF/Gal @ 20 mils DFT	*4 SQM/L @ 508 microns DFT)*

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