

QUALIFIED PRODUCTS LIST

The materials in this section may be accepted for use on Michigan Department of Transportation projects based on the trade name, model number, etc., as listed.

This Qualified Products List is in accordance with the 2012 Standard Specifications for Construction.

Also see Section 6.01 if the MQAP Manual.

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # and Material Name | Product Name | Manufacturers or Suppliers |
|--|---|--|
| 502.02B Overband Crackfill, Asphalt Rubber | <u>Alt. 2</u> K-T 1190 AR Plus Type 2 Deery 102 Roadsaver 221 Dura-Fill 3405 1190 ColJoint ARS II | Bit-Mat Products Crafcoc, Inc. Crafcoc, Inc. Crafcoc, Inc. P&T Products, Inc. Right Pointe Colas Solutions |
| 603.03B2 Adhesive Systems for Grouting Dowel Bars and Tie Bars for Full-Depth Concrete Pavement Repairs NOTE: Use these Qualified Products for grouting repairs to existing concrete in the same direction of traffic in the same lane of repair. For grouting lane ties (deformed bars positioned transverse to the direction of traffic located between traffic lanes) use QPL 712.03J, "Adhesive Systems for Structural Anchors and Lane Ties". | Ultrabond 1, 2, 3 Ultrabond 365 UltraBond HS-200 Ultrabond RT66 Ultrabond Speed Set 2 Inject-Tite Standard Set Inject-Tite Fast Set Aka Bond Aka Bond 550XP Aka Bond 550XPP Sonneborn Rapid Gel BHS-1250 BHS-1250XP CanRez 800 Araldite AW / HW 8561 Spec Bond 201 Highway Fast Set Epoxy TRU Grip HI-Modepoxy 590 Tru-Grip 591 Dural Fast Set Epoxy Gel Futura Bond 566 Hilti RSE DOT Epcon A7 Epcon-Ceramic 6 SurePoxy 117 Kelipoxy II Dynapoxy EP-430 FAST Poly-Carb Mark 198.4 Polyject/Polybac 1257 Polyject/Polybac 1295 AC 50 Silver AC 100+ Gold PE 1000+ Pure 50+ Pure 110+ T308+ Speed Bond #1 Sikadur Injection Gel Sikadur 881 DBA Sikadur DOT-SP13 Arcylic -Tie AT Epoxy Tie Dowel Bar Adhesive #5 Pro Poxy 300 Pro Poxy 300 FAST CIA Gel 7000 Rezi-Weld Gel Paste Rezi-Weld Gel Paste State | Adhesives Technology Corp. Adhesives Technology Corp. Adhesives Technology Corp. Adhesives Technology Corp. Adhesives Technology Corp. ANKR-Tite Fastening Systems ANKR-Tite Fastening Systems Axson North America (Formerly Akemi Plastics) Axson North America (Formerly Akemi Plastics) Axson North America (Formerly Akemi Plastics) BASF Construction Chemical Blackhawk Sales Company, Inc. Blackhawk Sales Company, Inc. Cansto Coatings Ciba Specialty Chemicals Corp. Conspec by Dayton Superior, Inc. Dayton Superior Corp. J. Dedoes, Inc. J. Dedoes, Inc. Euclid Chemical Company Futura Adhesives & Chemicals Hilti, Inc. ITW Ramset/Red Head ITW Ramset/Red Head Kaufman Products Kelken Construction Systems Pecora Corporation Olin Epoxy-Poly-Carb (Blue Cube Operations LLC) Olin Epoxy-Poly-Carb (Blue Cube Operations LLC) Polygen, Inc. Polygen, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Prime Resins, Inc. Sika Corporation Sika Corporation Sika Corporation Simpson Strong-Tie Company, Inc. Simpson Strong-Tie Company, Inc. Superior Epoxies & Coatings Unitex Unitex USP Structural Connectors W.R. Meadows, Inc. W.R. Meadows, Inc. |

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|---|---|--|---------------------------------------|---------------------|---------|---------------------|---------|----------------------|-----|-------------------------|-----|---------------------------------|-----|----------------|---------|--|-----|-----------------|-----|-------------|-----|---------------------------|-------|---------|--|--|
| 702.02B Non-Shrinking Mortar and Grout Type H-1(Non-Metallic) Pre Mixed H-2 eliminated. | MBT 928 Grout MasterFlow 100 Set Grout Boomer Premium Grout Upcon Super Flow Grout Celtite 10-50 Hi-Flow Conset Grout-XT Conspec 100 Enduro 50 Grout Gifford-Hills Supreme Grout 1107 Advantage Grout Sure Grip Grout NS Grout Five Star Grout Pro-Grout 90 SureGrout Crystex Duragrout Quikrete Precision Grout SC Miltipurpose Grout Superb Grout 611 Sealite 588 Grout | BASF Construction Chemical, Shakopee, MN BASF Construction Chemical, Shakopee, MN BASF Construction Chemical, Shakopee, MN Boomer Construction Materials, Detroit, MI Bostik Const. Prod. Co., Cleveland, OH Celtite Inc., Georgetown, KY ChemMasters, Madison, OH Conspec by Dayton Superior, Kansas City, KS Conspec by Dayton Superior, Kansas City, KS Cormix, Inc., Cleveland, OH (form. Gifford-Hill) Dayton Superior, Kansas City, KS Dayton Superior, Kansas City, KS Euclid Chemical Co., Cleveland, OH Five Star Products, Inc. G.C.M., Inc., Bensalem, PA Kaufman Products, Inc., Baltimore, MD L&M Construction Chemicals, Inc., Omaha, NE L&M Construction Chemicals, Inc., Omaha, NE Quikrete Technical Center, Atlanta, GA SpecChem Specco Industries, Lemont, IL W. R. Meadows, Inc., Elgin, IL | | | | | | | | | | | | | | | | | | | | | | | | |
| 703 Prepackaged Hydraulic Fast Set* Mortar NOTE: *Percentage based upon weight of prepackaged bag containing both cement and sand. Example Calculation: 50 lb bag approved at 60% extension = 50 x 0.60 = 30 lb coarse aggregate per bag. | <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="text-align: center; font-weight: normal;">Max. Aggregate Extension, %</th> </tr> </thead> <tbody> <tr><td>MasterEmaco T 1060</td><td style="text-align: center;">60*</td></tr> <tr><td>MasterEmaco T 545</td><td style="text-align: center;">60*</td></tr> <tr><td>Burke Fast Patch 928</td><td style="text-align: center;">50*</td></tr> <tr><td>Chem Speed 65</td><td style="text-align: center;">50*</td></tr> <tr><td>HD-50 Heavy Duty Concrete Patch</td><td style="text-align: center;">60*</td></tr> <tr><td>Express Repair</td><td style="text-align: center;">60*</td></tr> <tr><td>Five Star Highway Patch</td><td style="text-align: center;">60*</td></tr> <tr><td>Durapatch Hiway</td><td style="text-align: center;">50*</td></tr> <tr><td>Planitop 18</td><td style="text-align: center;">60*</td></tr> <tr><td>Commercial Grade Fast Set</td><td style="text-align: center;">45.5*</td></tr> <tr><td>DOT Mix</td><td></td></tr> </tbody> </table> | | Max. Aggregate Extension, % | MasterEmaco T 1060 | 60* | MasterEmaco T 545 | 60* | Burke Fast Patch 928 | 50* | Chem Speed 65 | 50* | HD-50 Heavy Duty Concrete Patch | 60* | Express Repair | 60* | Five Star Highway Patch | 60* | Durapatch Hiway | 50* | Planitop 18 | 60* | Commercial Grade Fast Set | 45.5* | DOT Mix | | BASF Construction Chemical BASF Construction Chemical Edoco, a Dayton Superior Co., Kansas City, KS Chem Masters Dayton Superior Corp. Euclid Chemical Co. Five Star Products, Inc. L&M Construction Chemicals, Inc. Mapei Corporation Quikrete |
| | Max. Aggregate Extension, % | | | | | | | | | | | | | | | | | | | | | | | | | |
| MasterEmaco T 1060 | 60* | | | | | | | | | | | | | | | | | | | | | | | | | |
| MasterEmaco T 545 | 60* | | | | | | | | | | | | | | | | | | | | | | | | | |
| Burke Fast Patch 928 | 50* | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chem Speed 65 | 50* | | | | | | | | | | | | | | | | | | | | | | | | | |
| HD-50 Heavy Duty Concrete Patch | 60* | | | | | | | | | | | | | | | | | | | | | | | | | |
| Express Repair | 60* | | | | | | | | | | | | | | | | | | | | | | | | | |
| Five Star Highway Patch | 60* | | | | | | | | | | | | | | | | | | | | | | | | | |
| Durapatch Hiway | 50* | | | | | | | | | | | | | | | | | | | | | | | | | |
| Planitop 18 | 60* | | | | | | | | | | | | | | | | | | | | | | | | | |
| Commercial Grade Fast Set | 45.5* | | | | | | | | | | | | | | | | | | | | | | | | | |
| DOT Mix | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 706.03S Protective Coating for Concrete (Penetrating Water Repellent Treatment of Structure Concrete Surfaces) | <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="text-align: center; font-weight: normal;">Application Rate, <u>sq ft/gal</u></th> </tr> </thead> <tbody> <tr><td>MasterProtect H 200</td><td style="text-align: center;">125-200</td></tr> <tr><td>MasterProtect H 400</td><td style="text-align: center;">125-200</td></tr> <tr><td>Barracade Silane 40</td><td style="text-align: center;">125</td></tr> <tr><td>Aquapel Plus 20% Silane</td><td style="text-align: center;">125</td></tr> <tr><td>Stifel S</td><td style="text-align: center;">125</td></tr> <tr><td>Powerseal 40</td><td style="text-align: center;">125-200</td></tr> </tbody> </table> | | Application Rate, <u>sq ft/gal</u> | MasterProtect H 200 | 125-200 | MasterProtect H 400 | 125-200 | Barracade Silane 40 | 125 | Aquapel Plus 20% Silane | 125 | Stifel S | 125 | Powerseal 40 | 125-200 | BASF Construction Chemical BASF Construction Chemical Euclid Chemical Co. L&M Construction Chemicals, Inc. Nox-Crete Chemicals Vexcon Chemicals | | | | | | | | | | |
| | Application Rate, <u>sq ft/gal</u> | | | | | | | | | | | | | | | | | | | | | | | | | |
| MasterProtect H 200 | 125-200 | | | | | | | | | | | | | | | | | | | | | | | | | |
| MasterProtect H 400 | 125-200 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Barracade Silane 40 | 125 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aquapel Plus 20% Silane | 125 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stifel S | 125 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Powerseal 40 | 125-200 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 707.02 Bushings for Pins & Link Plates | CJ Garmax | TriStar Garlock | | | | | | | | | | | | | | | | | | | | | | | | |

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|--|---|---|---------------|------------------|-------------|-------|-----|--------|-------|-----|--------------|-------|-----|------------|-------|-----|--------|-------|-----|--------------|-------|---------|--------------------|-----------------------|-----|--------------------|--------------|-----|-----|-----------------------|---------|--------------------|-------|-----|-----------|-------|-----|-----------------|--------------|-----|---------------|------------------|-----|------------|-------|-----|-------------|--------------|-----|------|-------|-----|-----------|-------|-----|-----|-------|-----|--------------|-------|-----|--------------|-------|-----|---------------|-------|-----|-------------|--|--|---|
| <p>712.03J Adhesive Systems for Structural Anchor & Lane Ties*</p> <p>NOTE: *Lane Ties defined as deformed bars positioned transverse to the direction of traffic located between lanes. For grouting dowel bars and tie bars (bars positioned to existing concrete in the direction of the traffic in the same lane as the repair) use QPL 603.03B2, "Adhesive Systems for Grouting Dowel Bars for Full-Depth Concrete Pavement Repairs".</p> <p>Note 1. Anchors shall be installed per manufacturer's recommendations with a minimum embedment depth of 12 diameters for reinforcing steel and 9 diameters for threaded bolts.</p> <p>Note 2. Material is limited to the shelf life recommendations by the manufacturer.</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Name</th> <th style="text-align: left;">Adhesive Type</th> <th style="text-align: left;">Mixing & Inject.</th> </tr> </thead> <tbody> <tr><td>Ultrabond 1</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>HS-200</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>Tru-Grip 591</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>HY-150 MAX</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>RE 500</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>Hilti HTE 50</td><td>Epoxy</td><td>Capsule</td></tr> <tr><td>Hilti HIT-HY 200-A</td><td>Urethane-Methacrylate</td><td>Yes</td></tr> <tr><td>Hilti HIT-HY 200-R</td><td>Methacrylate</td><td>Yes</td></tr> <tr><td>HVU</td><td>Urethane-Methacrylate</td><td>Capsule</td></tr> <tr><td>Hilti HIT-RE-500v3</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>Ceramic 6</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>Epcon Acrylic 7</td><td>Methacrylate</td><td>Yes</td></tr> <tr><td>Super Por-Rok</td><td>Non-Shrink Grout</td><td>Yes</td></tr> <tr><td>AC100 Plus</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>Acrylic-Tie</td><td>Methacrylate</td><td>Yes</td></tr> <tr><td>EDOT</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>Epoxy-Tie</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>SET</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>Pro-Poxy 300</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>CIA-Gel 7000</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>Rezi Weld Gel</td><td>Epoxy</td><td>Yes</td></tr> <tr><td>Paste State</td><td></td><td></td></tr> </tbody> </table> | Name | Adhesive Type | Mixing & Inject. | Ultrabond 1 | Epoxy | Yes | HS-200 | Epoxy | Yes | Tru-Grip 591 | Epoxy | Yes | HY-150 MAX | Epoxy | Yes | RE 500 | Epoxy | Yes | Hilti HTE 50 | Epoxy | Capsule | Hilti HIT-HY 200-A | Urethane-Methacrylate | Yes | Hilti HIT-HY 200-R | Methacrylate | Yes | HVU | Urethane-Methacrylate | Capsule | Hilti HIT-RE-500v3 | Epoxy | Yes | Ceramic 6 | Epoxy | Yes | Epcon Acrylic 7 | Methacrylate | Yes | Super Por-Rok | Non-Shrink Grout | Yes | AC100 Plus | Epoxy | Yes | Acrylic-Tie | Methacrylate | Yes | EDOT | Epoxy | Yes | Epoxy-Tie | Epoxy | Yes | SET | Epoxy | Yes | Pro-Poxy 300 | Epoxy | Yes | CIA-Gel 7000 | Epoxy | Yes | Rezi Weld Gel | Epoxy | Yes | Paste State | | | <p>Adhesives Technology Corp. Adhesives Technology Corp. J. Dedoes, Inc. Hilti, Inc. Hilti, Inc. Hilti, Inc. Hilti, Inc. Hilti, Inc. Hilti, Inc. Hilti, Inc. ITW Ramset/Red Head ITW Ramset/Red Head Novex Systems International, Inc. Powers Fasteners, Inc. Simpson Strong-Tie Anchor Systems Simpson Strong-Tie Anchor Systems Simpson Strong-Tie Anchor Systems Simpson Strong-Tie Anchor Systems Unitex USP Structural Connectors W.R. Meadows, Inc.</p> |
| Name | Adhesive Type | Mixing & Inject. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ultrabond 1 | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HS-200 | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tru-Grip 591 | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HY-150 MAX | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RE 500 | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hilti HTE 50 | Epoxy | Capsule | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hilti HIT-HY 200-A | Urethane-Methacrylate | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hilti HIT-HY 200-R | Methacrylate | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HVU | Urethane-Methacrylate | Capsule | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hilti HIT-RE-500v3 | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ceramic 6 | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Epcon Acrylic 7 | Methacrylate | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Super Por-Rok | Non-Shrink Grout | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AC100 Plus | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acrylic-Tie | Methacrylate | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EDOT | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Epoxy-Tie | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SET | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pro-Poxy 300 | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CIA-Gel 7000 | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rezi Weld Gel | Epoxy | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Paste State | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>712.03K Structure Expansion Anchors (Mechanical Expansion Anchors)</p> <p>Pull-out Testing is required per MQAP Manual Section 4.03.</p> <p>NOTE: Mechanical Expansion Anchors shall be set by applying the manufacturer's specified torque. The turn of the nut method will not be an acceptable alternative.</p> | <ol style="list-style-type: none"> 1. Pre-Drilled Flush Type <ol style="list-style-type: none"> a) Hilti HDI (3/8" (10mm), 1/2" (13mm), 3/4" (19mm), dia. anchors only) 2. Pre-Drilled Stud Type - Not suitable for lane ties or for guardrail end shoes because of exposed thread. <ol style="list-style-type: none"> a) Hilti Kwik-Bolt II or Kwik-Bolt III <ul style="list-style-type: none"> 3/8" (10mm) dia. anchor - min. embedment = 2 1/2" (65mm) 1/2" (13mm) dia. anchor - min. embedment = 3 1/2" (90mm) 5/8" (16mm) dia. anchor - min. embedment = 4" (100mm) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>712.03L Mechanical Reinforcement Splicing</p> <p>NOTE: Splices used to connect precast structural elements shall be high strength splices.</p> | <p>BPI Barsplicer System Grip-Twist Threaded Position Coupler Taper Threaded Grip-Twist Zap Screwlok Bar-Lock L-Series DB SAE Lenton Lenton Form Saver Lenton Interlok (High Strength) Lenton Position Coupler NMB Splice Sleeve (High Strength)</p> | <p>BarSplice Products, Inc., Dayton, OH BarSplice Products, Inc., Dayton, OH BarSplice Products, Inc., Dayton, OH BarSplice Products, Inc., Dayton, OH Dayton Superior Corp., Miamisburg, OH Dayton Superior Corp., Miamisburg, OH ERICO International Corporation, Solon, OH ERICO International Corporation, Solon, OH ERICO International Corporation, Solon, OH ERICO International Corporation, Solon, OH Splice Sleeve North America, Inc., Livonia, MI</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>712.03Y Embedded Galvanic Anodes</p> | <p>MasterProtect CP Models: 8065, 8105, 8150 Sentinel-GL Sika Galvashield XP Sika Galvashield XP+ Galvashield XP Galvashield XP+</p> | <p>BASF Chemical Company Euclid Chemical Co. Sika Corporation Sika Corporation Vector Corrosion Technologies Vector Corrosion Technologies</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>713.02B Sealant for Perimeter of Beam Repairs</p> <p>NOTE: No silicone materials - only polyurethane (PU) or PU blended materials that are paintable. Typically 1 week cure prior to painting. All non-sag material.</p> | <p>MasterSeal NP 1 Bostik 2020 Duralink (F1200) Loxon H1 Loxon S1 Sikaflex-15LM Vulkem 116 XtraBond 9500</p> | <p>BASF Construction Chemicals, Shakapee, MN Bostik US Chem Link Sherwin-Williams Sherwin-Williams Sika Corporation Tremco, Inc. Premier Industrial Supply</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|---|--|---|-------------------------|---------|---------|---------|--------|---------------------------------|--------|---------|--------|--------|-------|--------|--------|--------|-------|--------|--------|--------|-------|--------|--------|--------|------|--------|-------|-------|-------|-------|--------|--|
| 715.02 Coating Systems for New Hanger Assemblies | See Coating Systems for Steel Structures, Hanger Assemblies and End Diaphragms QPL 915 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 715.02 Abrasive, Low Dusting NOTE: The blasting profile produced by these abrasives will depend on the equipment used. It is the responsibility of the contractor to produce a profile within the 1.0 to 2.8 mils specified range. The abrasive additive, Blastox may be used with any of the listed low-dusting abrasives. | Black Diamond Abrasive GMA Garnet Blast Black Shot Granulated Slag Jetmag 32B4 StarBlast XL Emerald Creek Garnet Blackjack MSM, Waupaca Materials Blast Away Superior Blast Alluvial River Garnet Hornet Abrasive Ebony Grit Black Beauty Norblast E-1015 M-1015 Sharpshot XL | U.S. Minerals, Dyer, IN GMA Garnet Pty Ltd, Narngulu, WA, Australia Bell & MacKenzie Co. Ltd, Hamilton, Ontario Carpenter Brothers Inc., Mequon, WI Dupont, Wilmington, DE Emerald Creek Garnet, Fernwood, ID Faulks Brothers Constr. Co., Inc., Waupaca, WI Gibbco, Inc. Lesktech Limited Marco Group International, Beaver Falls, PA Mohawk Garnet, Inc., Wahnapiatae, ON Opta Minerals Inc. Reed Minerals Division, Highland, IN Transtech Inc., Covington, KY Universal Ground Cullets, Inc., Brook Park, OH Universal Ground Cullets, Inc., Brook Park, OH Universal Minerals Kentucky, Inc., Louisville, KY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 803.02B Detectable Warning Surfaces (ADA Compliant Sidewalk Ramps), 1. Cast-in-Place | Access Tile Cast In Place Replaceable AlertCast Cast in Place Truncated Dome Warning System Composite Wet Set Replaceable, Rectangular and Radius DetecTile Replaceable Tactile Panel EJIW Detectable Warning Plate Armor-Tile Cast in Place Stainless Armor-Tile Cast in Place Composite NF Detectable Warning Plate TufTile | Access Products, Inc., Buffalo, NY AlertTiles, Wilmington, NC ADA Solutions, North Billerica, MA ADA Solutions, North Billerica, MA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Surface Applied* *NOTE: Surface applied detectable warning surfaces may only be used to retrofit existing concrete | Surface Applied Panel System with Beveled Edges Alerttile Armor-Tile Surface Applied Composite Warning System TopMark | ADA Solutions, North Billerica, MA Detectable Warning Systems, Wilmington, NC Engineered Plastics, Inc., Williamsville, NY Ennis-Flint | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 811.03D1 Waterborne, Liquid Pavement Marking Material | <table border="0"> <tr> <td><u>Product ID</u></td> <td><u>Color</u></td> </tr> <tr> <td>BP-5760</td> <td>White</td> </tr> <tr> <td>TM-2204</td> <td>White</td> </tr> <tr> <td>P8479</td> <td>Yellow</td> </tr> <tr> <td>TM-2205</td> <td>Yellow</td> </tr> <tr> <td>982211</td> <td>White</td> </tr> <tr> <td>982212</td> <td>Yellow</td> </tr> <tr> <td>982221</td> <td>White</td> </tr> <tr> <td>982222</td> <td>Yellow</td> </tr> <tr> <td>982201</td> <td>White</td> </tr> <tr> <td>982202</td> <td>Yellow</td> </tr> <tr> <td>985205</td> <td>Blue</td> </tr> <tr> <td>985203</td> <td>Black</td> </tr> <tr> <td>14228</td> <td>White</td> </tr> <tr> <td>24228</td> <td>Yellow</td> </tr> </table> | <u>Product ID</u> | <u>Color</u> | BP-5760 | White | TM-2204 | White | P8479 | Yellow | TM-2205 | Yellow | 982211 | White | 982212 | Yellow | 982221 | White | 982222 | Yellow | 982201 | White | 982202 | Yellow | 985205 | Blue | 985203 | Black | 14228 | White | 24228 | Yellow | Sherwin-Williams Sherwin-Williams Sherwin-Williams Sherwin-Williams Ennis-Flint Ennis-Flint Ennis-Flint Ennis-Flint Ennis-Flint Ennis-Flint Ennis-Flint Ennis-Flint Ennis-Flint Ennis-Flint Ozark Materials, LLC Ozark Materials, LLC |
| <u>Product ID</u> | <u>Color</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BP-5760 | White | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TM-2204 | White | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P8479 | Yellow | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TM-2205 | Yellow | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 982211 | White | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 982212 | Yellow | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 982221 | White | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 982222 | Yellow | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 982201 | White | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 982202 | Yellow | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 985205 | Blue | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 985203 | Black | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14228 | White | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24228 | Yellow | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 811.03D2 Low Temperature Waterborne, Liquid Pavement Marking Material | <table border="0"> <tr> <td><u>White</u></td> <td><u>Lead Free Yellow</u></td> </tr> <tr> <td>985251</td> <td>985252</td> </tr> <tr> <td>TM2372</td> <td>TM2373</td> </tr> </table> | <u>White</u> | <u>Lead Free Yellow</u> | 985251 | 985252 | TM2372 | TM2373 | Ennis-Flint Sherwin-Williams | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>White</u> | <u>Lead Free Yellow</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 985251 | 985252 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TM2372 | TM2373 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 811.03D3 Regular Dry Paint, Liquid Pavement Marking Material | <table border="0"> <tr> <td><u>White</u></td> <td><u>Lead Free Yellow</u></td> </tr> <tr> <td>TM-5604</td> <td>TM-5607</td> </tr> <tr> <td>982271</td> <td>982282</td> </tr> </table> | <u>White</u> | <u>Lead Free Yellow</u> | TM-5604 | TM-5607 | 982271 | 982282 | Sherwin-Williams Ennis-Flint | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>White</u> | <u>Lead Free Yellow</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TM-5604 | TM-5607 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 982271 | 982282 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # and Material Name | Product Name | Manufacturers or Suppliers | | | | | | | | | | | | | | | | | | | | |
|---|---|--------------------------------------|------------------|-----------------|------------------|-----------------------|---------------------|-----------------|------------------|-------------------------------------|------------------------------------|----------------------|-----------------|-------------|------------------------|-----------------|-----------------|-----------|---|-----------|-----------|--|
| 811.03D4 Cold Plastic Tape, Permanent (Long Line, Legends & Crosswalks) | Wet Reflective Long Line: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>White</u></td> <td style="text-align: center;"><u>Yellow</u></td> <td style="text-align: center;"><u>Adhesive</u></td> </tr> <tr> <td style="text-align: center;">380 AW</td> <td style="text-align: center;">381 AW</td> <td style="text-align: center;">P50</td> </tr> <tr> <td style="text-align: center;">DeltaLine XRP-R</td> <td style="text-align: center;">DeltaLine XRP-R</td> <td style="text-align: center;">D-20</td> </tr> </table> | <u>White</u> | <u>Yellow</u> | <u>Adhesive</u> | 380 AW | 381 AW | P50 | DeltaLine XRP-R | DeltaLine XRP-R | D-20 | 3M Brite-line Technologies, LLC | | | | | | | | | | | |
| | <u>White</u> | <u>Yellow</u> | <u>Adhesive</u> | | | | | | | | | | | | | | | | | | | |
| | 380 AW | 381 AW | P50 | | | | | | | | | | | | | | | | | | | |
| | DeltaLine XRP-R | DeltaLine XRP-R | D-20 | | | | | | | | | | | | | | | | | | | |
| | Standard Long Line: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>White</u></td> <td style="text-align: center;"><u>Yellow</u></td> <td style="text-align: center;"><u>Adhesive</u></td> </tr> <tr> <td style="text-align: center;">380I ES</td> <td style="text-align: center;">381I ES</td> <td style="text-align: center;">P50</td> </tr> <tr> <td style="text-align: center;">Director 60</td> <td style="text-align: center;">Director 60</td> <td style="text-align: center;">DP-E4</td> </tr> <tr> <td style="text-align: center;">Director 60 HPT</td> <td style="text-align: center;">Director 60 HPT</td> <td style="text-align: center;">DP-E4</td> </tr> </table> | <u>White</u> | <u>Yellow</u> | <u>Adhesive</u> | 380I ES | 381I ES | P50 | Director 60 | Director 60 | DP-E4 | | Director 60 HPT | Director 60 HPT | DP-E4 | 3M Swarco Swarco | | | | | | | |
| | <u>White</u> | <u>Yellow</u> | <u>Adhesive</u> | | | | | | | | | | | | | | | | | | | |
| | 380I ES | 381I ES | P50 | | | | | | | | | | | | | | | | | | | |
| | Director 60 | Director 60 | DP-E4 | | | | | | | | | | | | | | | | | | | |
| | Director 60 HPT | Director 60 HPT | DP-E4 | | | | | | | | | | | | | | | | | | | |
| | Shadow Tape: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>Black</u></td> <td style="text-align: center;"><u>Adhesive</u></td> </tr> <tr> <td style="text-align: center;">385 ES</td> <td style="text-align: center;">P50</td> </tr> <tr> <td style="text-align: center;">Director 60</td> <td style="text-align: center;">DP-E4</td> </tr> </table> | <u>Black</u> | <u>Adhesive</u> | 385 ES | P50 | Director 60 | DP-E4 | 3M Swarco | | | | | | | | | | | | | | |
| <u>Black</u> | <u>Adhesive</u> | | | | | | | | | | | | | | | | | | | | | |
| 385 ES | P50 | | | | | | | | | | | | | | | | | | | | | |
| Director 60 | DP-E4 | | | | | | | | | | | | | | | | | | | | | |
| Special Markings (symbols, legends, stop bars, crosswalks, crosshatching): <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>White</u></td> <td style="text-align: center;"><u>Yellow</u></td> <td style="text-align: center;"><u>Adhesive</u></td> </tr> <tr> <td style="text-align: center;">270 ES</td> <td style="text-align: center;">271 ES</td> <td style="text-align: center;">P50</td> </tr> <tr> <td style="text-align: center;">380I ES</td> <td style="text-align: center;">381I ES</td> <td style="text-align: center;">P50</td> </tr> <tr> <td style="text-align: center;">ATM 300</td> <td style="text-align: center;">ATM 300</td> <td style="text-align: center;">ATM Permanent Primer</td> </tr> <tr> <td style="text-align: center;">Director 60</td> <td style="text-align: center;">Director 60</td> <td style="text-align: center;">DP-E4</td> </tr> <tr> <td style="text-align: center;">Director 60 HPT</td> <td style="text-align: center;">Director 60 HPT</td> <td style="text-align: center;">DP-E4</td> </tr> </table> | <u>White</u> | <u>Yellow</u> | <u>Adhesive</u> | 270 ES | 271 ES | P50 | 380I ES | 381I ES | P50 | ATM 300 | ATM 300 | ATM Permanent Primer | Director 60 | Director 60 | DP-E4 | Director 60 HPT | Director 60 HPT | DP-E4 | 3M 3M Advanced Traffic Markings Swarco Swarco | | | |
| <u>White</u> | <u>Yellow</u> | <u>Adhesive</u> | | | | | | | | | | | | | | | | | | | | |
| 270 ES | 271 ES | P50 | | | | | | | | | | | | | | | | | | | | |
| 380I ES | 381I ES | P50 | | | | | | | | | | | | | | | | | | | | |
| ATM 300 | ATM 300 | ATM Permanent Primer | | | | | | | | | | | | | | | | | | | | |
| Director 60 | Director 60 | DP-E4 | | | | | | | | | | | | | | | | | | | | |
| Director 60 HPT | Director 60 HPT | DP-E4 | | | | | | | | | | | | | | | | | | | | |
| 811.03D5 Thermoplastic, Liquid Pavement Marking Material | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>White</u></td> <td style="text-align: center;"><u>Yellow</u></td> </tr> <tr> <td style="text-align: center;">884285</td> <td style="text-align: center;">884685</td> </tr> <tr> <td style="text-align: center;">Swarcotherm EWH 131</td> <td style="text-align: center;">Swarcotherm EYH 132</td> </tr> <tr> <td style="text-align: center;">Viatherm E413W</td> <td></td> </tr> </table> | <u>White</u> | <u>Yellow</u> | 884285 | 884685 | Swarcotherm EWH 131 | Swarcotherm EYH 132 | Viatherm E413W | | Ennis-Flint Swarco Cleansol | | | | | | | | | | | | |
| <u>White</u> | <u>Yellow</u> | | | | | | | | | | | | | | | | | | | | | |
| 884285 | 884685 | | | | | | | | | | | | | | | | | | | | | |
| Swarcotherm EWH 131 | Swarcotherm EYH 132 | | | | | | | | | | | | | | | | | | | | | |
| Viatherm E413W | | | | | | | | | | | | | | | | | | | | | | |
| 811.03D5 Thermoplastic, Blocks Rumble Strips | E411W (Block) Rumble Strip | Cleansol | | | | | | | | | | | | | | | | | | | | |
| 811.03D6 Thermoplastic, Sprayable, Liquid Pavement Marking Material | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>White</u></td> <td style="text-align: center;"><u>Yellow</u></td> </tr> <tr> <td style="text-align: center;">01-WAK-BADA</td> <td style="text-align: center;">01-YAK-AADA</td> </tr> <tr> <td style="text-align: center;">01-WHK-BADA</td> <td style="text-align: center;">01-YHK-AADA</td> </tr> <tr> <td style="text-align: center;">W1SS7056</td> <td style="text-align: center;">Y1SS7006</td> </tr> <tr> <td style="text-align: center;">W2SS7056</td> <td style="text-align: center;">Y2SS7006</td> </tr> <tr> <td style="text-align: center;">884822</td> <td style="text-align: center;">883241</td> </tr> <tr> <td style="text-align: center;">884824</td> <td style="text-align: center;">883240</td> </tr> <tr> <td style="text-align: center;">11128</td> <td style="text-align: center;">21128</td> </tr> <tr> <td style="text-align: center;">1157MWHSI</td> <td style="text-align: center;">2798MYHSI</td> </tr> <tr> <td style="text-align: center;">3023MWASI</td> <td style="text-align: center;">3021MYASI</td> </tr> </table> | <u>White</u> | <u>Yellow</u> | 01-WAK-BADA | 01-YAK-AADA | 01-WHK-BADA | 01-YHK-AADA | W1SS7056 | Y1SS7006 | W2SS7056 | Y2SS7006 | 884822 | 883241 | 884824 | 883240 | 11128 | 21128 | 1157MWHSI | 2798MYHSI | 3023MWASI | 3021MYASI | Crown Technology Crown Technology Dobco-Sherwin Williams Dobco-Sherwin Williams Ennis-Flint Ennis-Flint Ozark Materials, LLC Swarco Swarco |
| <u>White</u> | <u>Yellow</u> | | | | | | | | | | | | | | | | | | | | | |
| 01-WAK-BADA | 01-YAK-AADA | | | | | | | | | | | | | | | | | | | | | |
| 01-WHK-BADA | 01-YHK-AADA | | | | | | | | | | | | | | | | | | | | | |
| W1SS7056 | Y1SS7006 | | | | | | | | | | | | | | | | | | | | | |
| W2SS7056 | Y2SS7006 | | | | | | | | | | | | | | | | | | | | | |
| 884822 | 883241 | | | | | | | | | | | | | | | | | | | | | |
| 884824 | 883240 | | | | | | | | | | | | | | | | | | | | | |
| 11128 | 21128 | | | | | | | | | | | | | | | | | | | | | |
| 1157MWHSI | 2798MYHSI | | | | | | | | | | | | | | | | | | | | | |
| 3023MWASI | 3021MYASI | | | | | | | | | | | | | | | | | | | | | |
| 811.03D7 Polyurea, Liquid Pavement Marking Material | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">5000 LPM</td> <td style="text-align: center;">White</td> </tr> <tr> <td style="text-align: center;">5001 LPM</td> <td style="text-align: center;">Yellow</td> </tr> <tr> <td style="text-align: center;">LS90</td> <td style="text-align: center;">White and Yellow</td> </tr> <tr> <td style="text-align: center;">HPS-5</td> <td style="text-align: center;">White and Yellow</td> </tr> </table> | 5000 LPM | White | 5001 LPM | Yellow | LS90 | White and Yellow | HPS-5 | White and Yellow | 3M 3M Epo-Plex Ennis Flint | | | | | | | | | | | | |
| 5000 LPM | White | | | | | | | | | | | | | | | | | | | | | |
| 5001 LPM | Yellow | | | | | | | | | | | | | | | | | | | | | |
| LS90 | White and Yellow | | | | | | | | | | | | | | | | | | | | | |
| HPS-5 | White and Yellow | | | | | | | | | | | | | | | | | | | | | |
| 811.03D8 Modified Urethane, Liquid Pavement Marking Material | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">HPS-4</td> <td style="text-align: center;">White and Yellow</td> </tr> <tr> <td style="text-align: center;">MFUA-10</td> <td style="text-align: center;">White and Yellow</td> </tr> </table> | HPS-4 | White and Yellow | MFUA-10 | White and Yellow | Ennis-Flint Swarco | | | | | | | | | | | | | | | | |
| HPS-4 | White and Yellow | | | | | | | | | | | | | | | | | | | | | |
| MFUA-10 | White and Yellow | | | | | | | | | | | | | | | | | | | | | |
| 811.03D9 Preformed Thermoplastic, Preformed Pavement Marking Material | PreMark HotTape SWARCO Preformed Thermoplastic | Ennis-Flint Ennis-Flint Swarco | | | | | | | | | | | | | | | | | | | | |

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

| Spec. # and Material Name | Manufacturer or Supplier and Trade Name | Type | Producer and Description | Recommended Dosage min. or range fl oz/cwt |
|--|---|----------------------------|--------------------------|---|
| 903.01 Air Entraining Admixtures | <u>BASF CONSTR. CHEM.</u> MasterSet DELVO | D | Water-reducer retarder | 3 |
| | MasterGlenium 3400 | F | High-range water-reducer | 3 |
| 903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete | MasterGlenium 7500 | A | Water-reducer | 1.5 |
| | | F | High-range water-reducer | 3 - 15 |
| | MasterGlenium 7700 | F | High-range water-reducer | 4 - 15 |
| | MasterGlenium 7710 | F | High-range water-reducer | 4 |
| 903.04 Concrete Accelerators | MasterGelnium 7920 | F | High-range water-reducer | 4 |
| | | MR | Mid-range water-reducer | 2 |
| | MasterAir AE 90 | AE | Air-entraining | 1 |
| | MasterAir AE 200 | AE | Air-entraining | 1 |
| | MasterPolyheed 900 | A | Water-reducer | 4 |
| | | MR | Mid-range water-reducer | 7 |
| | MasterPolyheed 997 | A | Water-reducer | 3 |
| | | MR | Mid-range water-reducer | 6 |
| | | F | High-range water-reducer | 10 |
| | MasterPolyheed 1725 | A | Water-reducer | 2.5 - 4 |
| | | MR | Mid-range water-reducer | 5.5 - 7 |
| | | F | High-range water-reducer | 8 - 12 |
| | MasterPolyheed 100 | A | Water-reducer | 4 |
| | | MR | Mid-range water-reducer | 8 |
| | MasterPozzolith 200 | A | Water-reducer | 2 |
| | MasterPozzolith 700 | D | Water-reducer retarder | 4 |
| | | A | Water-reducer | 2 |
| | D | Water-reducer retarder | 5 | |
| MasterSet AC 534 | C | Accelerator (non-chloride) | 10 | |
| MasterSet FP 20 | C | Accelerator (non-chloride) | 10 | |
| MasterGlenium 7511 | A | Water-reducer | 2 - 4 | |
| | MR | Mid-range water-reducer | 4 - 6 | |
| | F | High-range water-reducer | 6 - 15 | |
| MasterRheobuild 1000 | MR | Mid-range water-reducer | 9 | |
| | F | High-range water-reducer | 13 | |

(Continued)

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

| Spec. # and Material Name | Manufacturer or Supplier and Trade Name | Type | Producer and Description | Recommended Dosage min. or range fl oz/cwt |
|--|--|--------------------------|--|---|
| 903.01 Air Entraining Admixtures | <u>EUCLID CHEMICAL CO.</u> | | | |
| | Eucon AEA 92 | AE | Air-entraining | 1.5 |
| 903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete | Accelguard 80 | C | Accelerator (non-chloride) | 18 - 32 |
| | Accelguard G3 | E | Water-reducer accelerator (non-chloride) | 16 - 90 |
| | Accelguard NCA | C | Accelerator (non-chloride) | 15 |
| | Eucon Air Mix 200 | AE | Air-entraining | 3 |
| 903.04 Concrete Accelerators | EUCON Air MAC6 | AE | Air-entraining | 0.5 - 4 |
| | EUCON MR | A | Water-reducer | 4.5 |
| | | MR | Mid-range water-reducer | 5.5 |
| | | F | High-range water-reducer | 12 |
| | EUCON MRX | MR | Mid-range water-reducer | 3.5 |
| | | F | High-range water-reducer | 7.5 |
| | EUCON WR | A | Water-reducer | 2.5 - 10 |
| | | D | Water-reducer retarder | 2.5 - 10 |
| | EUCON WR-91 | A | Water-reducer | 3 |
| | | MR | Mid-range water-reducer | 5 |
| | | D | Water-reducer retarder | 6 |
| | | A | Water-reducer | 3.5 |
| | EUCON A+ | MR | Mid-range water-reducer | 4.5 |
| | | D | Water-reducer retarder | 3.5 |
| | | D | Water-reducer retarder | 1 - 16 |
| | | AE | Air-entraining | 1.5 - 4 |
| F | | High-range water-reducer | 7.5 | |
| F | | High-range water-reducer | 3 | |
| F | | High-range water-reducer | 4.5 - 12 | |
| F | | High-range water-reducer | 5 - 12 | |
| PLASTOL ULTRA 209 | F | High-range water-reducer | 3.5 - 12 | |
| (Continued) | | | | |

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
 Air Entraining - ASTM C 260; Chemical - ASTM C 494
 (See Notes Following Listing of Admixtures)

| Spec. # and Material Name | Manufacturer or Supplier and Trade Name | Type | Producer and Description | Recommended Dosage min. or range fl oz/cwt |
|--|---|--------------------------|-------------------------------|---|
| 903.01 Air Entraining Admixtures 903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete 903.04 Concrete Accelerators | <u>GENERAL RESOURCE TECHNOLOGY (GRT)</u> | | | |
| | Dynamon SX | F | High-range water-reducer | 6 - 12 |
| | | MR | Mid-range water-reducer | 3.5 - 6 |
| | KB-1200 | A | Water-reducer | 3 - 5 |
| | | MR | Mid-range water-reducer | 5 - 8 |
| | Polychem VR | AE | Air-entraining (vinsol resin) | 0.5 |
| | Polychem SA-50 | AE | Air-entraining | 1 - 3 |
| | Polychem 400 NC | A | Water-reducer | 3 - 5 |
| | Polychem Super Set | C | Accelerator (non-chloride) | 16 - 32 |
| | Polychem R | D | Water-reducer retarder | 3 - 5 |
| Polychem SPC | F | High-range water-reducer | 5.5 | |
| (Continued) | | | | |

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

| Spec. # and Material Name | Manufacturer or Supplier and Trade Name | Type | Producer and Description | Recommended Dosage min. or range fl oz/cwt |
|--|---|------|--|---|
| 903.01 Air Entraining Admixtures | <u>PREMIERE CONCRETE</u> <u>ADMIXTURES</u> | | | |
| 903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete | EcoFlo Green | F | High-range water-reducer | 8 - 16 |
| | Optiflo 700 | A | Water-reducer | 3 - 5 |
| | OptiFlo 50 | MR | Mid-range water-reducer | 5 - 10 |
| | | A | Water-reducer | 3 - 5 |
| 903.04 Concrete Accelerators | | MR | Mid-range water-reducer | 5 - 6 |
| | | D | Water-reducer retarder | 6 |
| | OptiFlo 500 | A | Water-reducer | 2 - 3.5 |
| | | D | Water-reducer retarder | 3.5 - 5 |
| | OptiFlo MR | A | Water-reducer | 3 - 5 |
| | | MR | Mid-range water-reducer | 5 - 12 |
| | | F | High-range water-reducer | 12 - 16 |
| | OptiFlo Plus | MR | Mid-range water-reducer | 5 - 12 |
| | | E | Water-reducer accelerator (non-chloride) | 12 - 90 |
| | OptiFlo 100R | D | Water-reducer retarder | 3 - 5 |
| | ConAir | AE | Air-entraining | 0.5 - 4 |
| | ConAir 260 | AE | Air-entraining | 0.5 - 4 |
| | ConAir X | AE | Air-entraining | 0.5 - 4 |
| | UltraFlo 2000 | A | Water-reducer | 2 - 4 |
| | | MR | Mid-range water-reducer | 4 - 6 |
| | | F | High-range water-reducer | 6 - 12 |
| | UltraFlo 4600 | MR | Mid-range water-reducer | 7 - 12 |
| | | F | High-range water-reducer | 12 - 20 |
| | UltraFlo 5600 | MR | Mid-range water-reducer | 6 - 10 |
| | | F | High-range water-reducer | 10 - 24 |
| | UltraFlo DP | F | High-range water-reducer | 5 - 12 |
| | NitroCast K | E | Water-reducer accelerator (non-chloride) | 10 - 90 |
| | ProLong L | D | Water-reducer retarder | 2.5 - 6.5 |
| (Continued) | | | | |

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
 Air Entraining - ASTM C 260; Chemical - ASTM C 494
 (See Notes Following Listing of Admixtures)

| Spec. # and Material Name | Manufacturer or Supplier and Trade Name | Type | Producer and Description | Recommended Dosage min. or range fl oz/cwt |
|--|--|------|--------------------------|---|
| 903.01 Air Entraining Admixtures 903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete 903.04 Concrete Accelerators | <u>RUSSTECH</u> LC-400R | D | Water-reducer retarder | 3.5 - 6 |
| | RSA-10 | AE | Air-entraining | 1 |
| | Superflo 2000 RM | F | High-range water-reducer | 8 - 20 |
| (Continued) | | | | |

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

| Spec. # and Material Name | Manufacturer or Supplier and Trade Name | Type | Producer and Description | Recommended Dosage min. or range fl oz/cwt |
|--|--|----------------------------|--------------------------|---|
| 903.01 Air Entraining Admixtures | <u>SIKA CORP.</u> MultiAir 25 | AE | Air-entraining | 1 |
| | Plastocrete 10N | A | Water-reducer | 2 |
| 903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete | Plastocrete 161 | D | Water-reducer retarder | 3.5 |
| | | A | Water-reducer | 3 |
| | Plastiment XR | D | Water-reducer retarder | 6 |
| | | D | Water-reducer retarder | 3 |
| 903.04 Concrete Accelerators | Sika AEA-14 | AE | Air-entraining | 2 |
| | Sika AIR 260 | AE | Air-entraining | 2 |
| | Sika AIR 360 | AE | Air-entraining | 1 |
| | Sikament AFM | A | Water-reducer | 2 |
| | | MR | Mid-range water-reducer | 6 |
| | | F | High-range water-reducer | 11 |
| | | MR | Mid-range water-reducer | 6.5 |
| | Sikament SPMN | F | High-range water-reducer | 10 |
| | | A | Water-reducer | 3 |
| | | F | High-range water-reducer | 7 |
| | | MR | Mid-range water-reducer | 5 |
| | Sikament 475 | A | Water-reducer | 3 |
| | | F | High-range water-reducer | 7 |
| | | MR | Mid-range water-reducer | 5 |
| | | A | Water-reducer | 3 |
| | Sikament 686 | MR | Mid-range water-reducer | 5.5 |
| | | F | High-range water-reducer | 8 |
| | | A | Water-reducer | 3 |
| | | MR | Mid-range water-reducer | 6.5 |
| | SikaPlast 200 | A | Water-reducer | 3 |
| G | | High-range water-reducer | 13 | |
| MR | | Mid-range water-reducer | 6.5 | |
| C | | Accelerator (non-chloride) | 10 | |
| SikaSet NC | D | Water-reducer retarder | 3 | |
| Sikatard 440 | C | Accelerator (non-chloride) | 20 | |
| Rapid - 1 | A | Water-reducer | 1.5 | |
| ViscoCrete 1000 | MR | Mid-range water-reducer | 3 | |
| | F | High-range water-reducer | 8 | |
| | F | High-range water-reducer | 5 | |
| | F | High-range water-reducer | 5 | |
| ViscoCrete 2100 | F | High-range water-reducer | 5 | |
| | F | High-range water-reducer | 5 | |
| ViscoCrete 4100 | F | High-range water-reducer | 5 | |
| ViscoCrete 6100 | F | High-range water-reducer | 5 | |

(Continued)

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

| Spec. # and Material Name | Manufacturer or Supplier and Trade Name | Type | Producer and Description | Recommended Dosage min. or range fl oz/cwt |
|--|--|------------------------|----------------------------|---|
| 903.01 Air Entraining Admixtures | <u>GCP APPLIED TECHNOLOGIES, INC.</u> | | | |
| | ADVA 405 | F | High-range water-reducer | 11 - 18 |
| 903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete | ADVA Cast 198 | F | High-range water-reducer | 4 - 15 |
| | ADVA Cast 575 | F | High-range water-reducer | 3.5 - 10 |
| | ADVA Cast 585 | F | High-range water-reducer | 4 - 10 |
| | ADVA Cast 600 | A | Water-reducer | 2 - 4 |
| | | | F | High-range water-reducer |
| 903.04 Concrete Accelerators | Daracem 19 | F | High-range water-reducer | 12.5 |
| | Daracem 65 | A | Water-reducer | 4 |
| | | MR | Mid-range water-reducer | 6 - 9 |
| | Daraset 400 | C | Accelerator (non-chloride) | 15 |
| | Daratard 17 | D | Water-reducer retarder | 2 |
| | Daravair 1400 | AE | Air-entraining | 1 |
| | Darex II AEA | AE | Air-entraining | 1 - 5 |
| | MIRA 62 | A | Water-reducer | 4.5 |
| | | MR | Mid-range water-reducer | 6 - 12 |
| | | F | High-range water-reducer | 12 - 15 |
| | MIRA 95 | F | High-range water-reducer | 10 - 15 |
| | MIRA 110 | MR | Mid-range water-reducer | 9 - 12 |
| | | F | High-range water-reducer | 12 - 15 |
| | Polarset | C | Accelerator (non-chloride) | 8 |
| | Recover | D | Water-reducer retarder | 2.5 - 6 |
| Terapave AEA | AE | Air-entraining | 1.5 | |
| WRDA 82 | A | Water-reducer | 3 | |
| ZYLA 630 | A | Water-reducer | 4 - 7 | |
| ZYLA R | D | Water-reducer retarder | 6 - 12 | |

SPEC. 903 ADMIXTURE NOTES:

1. Dosage Rate

The dosage rate indicated is that recommended by the producer or that used in qualification tests for approval of the admixture. There is no assurance that the desired water-reduction and/or retardation will be achieved with these dosages with a particular cement being used, as the effect is dependent on the cement chemistry, concrete temperature, and other factors. Increasing the dosage appreciably above that recommended may result in abnormal behavior of the concrete, such as extremely long or very short setting times. Reducing the dosage below that recommended may have the effect of substantially no change from concrete without the admixture. The dosage shown for retarding admixtures will normally produce a 1- to 3-hour retardation in the setting of the concrete, compared to similar concrete without the admixture, when used at normal temperatures (approximately 70°F). Increased dosage, within reasonable limits, will usually increase the retardation. Use of a retarding admixture will not slow the stiffening of concrete due to loss of slump.

2. Air-Entraining Admixtures

The contractor is responsible for verifying the compatibility of all chemical admixtures and the air-entraining admixture. If admixtures are from more than one manufacturer, run a trial batch prior to concrete placement. Provide test results for slump, air-entrainment and seven-day compression for two (2) cylinders. Actual dosage for Air-Entrainers may vary from those listed on the Qualified Products List as required by the mix design.

3. Lignin Type Admixtures

Lignin (or lignosulfonate) admixtures typically will cause the entrainment of additional air in air-entrained concrete. This type admixture does not generally entrain air by itself, but makes other air-entraining materials much more efficient. Thus, a change in dosage of either the chemical admixture or the air-entraining admixture may have a more significant effect on the air content than normally expected. It is the contractor's responsibility to be sure the specific admixture proposed for use is compatible with his operations so that excessive air content in the concrete is not developed. Most lignosulfonate type water-reducers will provide a moderate retardation if used at higher dosage rates.

4. High-Range Water-Reducers

Type F and G high range water-reducing (HRWR) admixtures (frequently called "superplasticizers") are capable of greater water reduction and greater strength gain than regular Type A water-reducers, or can provide substantial increase in slump while maintaining a cohesive concrete without loss of strength. Type G admixtures will also provide retardation of setting similar to Type D admixtures. Problems with this type of admixture include the following: (a) Loss of slump is frequently much more rapid than with plain concrete or when other admixtures are used, especially for older formulations of superplasticizers; (b) Effectiveness depends on the chemistry of the Portland cement, and the cements generally available in Michigan do not have the most favorable chemistry; (c) The air-void system may be adversely affected. Type F and G admixtures are to be used only according to the provisions of the Standard Specifications.

5. Admixtures Containing Chlorides

Some Type A and D admixtures may contain chlorides, as noted in the above listing. Section 903.03 of the Standard Specifications permits the use of these admixtures, except they are prohibited in concrete for bridge superstructure, prestressed concrete, and concrete containing galvanized steel or aluminum.

(End of Admixture Notes)

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # and Material Name | Product Name | | Manufacturers or Suppliers |
|--|--------------------------------------|------------------------------------|--|
| 905.03C Bar Reinforcement (Epoxy Coating) NOTE: Epoxy Coating Material Only. The Coating Applicator and Bar Manufacturer can be Approved Manufacturers, see Approved Manufacturers List. | <u>Epoxy Coating Product Name</u> | <u>Repair Coating Product Name</u> | |
| | Scotchkote 413 | Scotchkote 323R | 3M |
| | Resicoat RB-600 | Thermal Chem BarPatch #803 | Akzo Nobel Powder Coatings |
| | Nap-Gard 7-2719 | Nap-Gard 7-1870 or 7-2727 | Axalta Coating Systems (Dupont Powder Coating) |
| | Nap-Gard 7-2750 | Nap-Gard 7-1868 | Axalta Coating Systems (Dupont Powder Coating) |
| | Greenbar 720A009 | Greenbar 920-G-966/ 920-C-966 | Valspar |
| | Vectrashield PFY80006 | Vectrashield Patch Kit | Valspar |
| 906.09 Shear Developers (Studs) | <u>Markings</u> | | |
| | B | | Bluearc Stud Welding |
| | C | | Cox Industries |
| | N | | Nelson Stud Welding Co. (Div. of Gregory Ind.) |
| | X | | Stud Welding Associates, Inc. |
| | TW | | Tru-Weld from Tru-Fit Products Corp. |
| 909.01 Recycled Rubber Adjusting Rings for Manholes and Drainage Structures | Flex-O-Ring | | American Highway Products |
| | Pivoted Turnbuckle | | American Highway Products |
| | Pro-Ring | | Cretex Specialty Products |
| | Infra-Riser | | East Jordan Iron Works |
| | Ladtech HDPE | | Ladtech, Inc. |
| | HDPE Recycled Manhole Adjusting Ring | | P. Spear Company |
| | UGT Grade Ring | | Underground Technologies |
| Whirlygig | | Whirlygig, Inc. | |

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # | Pipe Material | Joint System | Pipe Diameter (Inches) | Approved Manufacturers |
|---|--|---|---|-----------------------------------|
| 909.03 Watertight Joint Systems | Corrugated Polyethylene Pipe | Bell/Spigot N-12WT Pro-Link Ultra WT Rubber Gasket | 12 thru 60 | ADS – Hancor |
| | Corrugated Polyethylene Pipe | Compression Gasket | 12 thru 24 | Baughman Tile Co. |
| | Corrugated Polyethylene Pipe | Haviland Smooth-Flow WT Compression Gasket | 12 thru 36 | Haviland Drainage Products Co. |
| | Corrugated Polyethylene Pipe | MaxSeal Gasket | 12 thru 60 | JM Eagle |
| | Corrugated Polyethylene Pipe | Hamilton Kent In-Line Bell Spring Seal | 12 thru 15 | Lane Enterprises |
| | Corrugated Polyethylene Pipe | SpringSeal Gasket | 18 thru 24 | Lane Enterprises |
| | Corrugated Polyethylene Pipe | Gold Flow Corrugated SLCP Compression Gasket | 12 thru 36 | Prinsco, Inc. |
| | Corrugated Polyethylene Pipe | Gold Flow WT w/SpringSeal gaskets | 12 thru 36 | Prinsco, Inc |
| | Corrugated Polyethylene Pipe | Bell/Spigot Polyisoprene Gaskets | 12 thru 60 | Southeast Culvert, Inc. |
| | Corrugated Polyethylene Pipe | Vertex Single Compression Gasket | 12 thru 60 | Southeast Culvert, Inc. |
| | Corrugated Polyvinyl Chloride Pipe (PVC) | Integrally Formed Elastomeric Gasket, Bell/Spigot | 12 thru 36 | Contech Engineered Solutions, LLC |
| | Concrete Pipe | Single Offset Self-Lubricating Gasket, Tylox - Hamilton Kent | 12 thru 24 | Co-Pipe Products Inc. |
| | Concrete Pipe | Press Seal Gasket Corp.-4G, 4F; Hamilton Kent-Tylox Super Seal; Universal Polymer & Rubber-Profile Gasket | 12 thru 33 | Northern Concrete Pipe, Inc. |
| | Concrete Pipe | Press Seal Gasket Corp.-4G, 4F, O-ring, M875; | 36 thru 72 | Northern Concrete Pipe, Inc. |
| | Concrete Pipe | Hamilton Kent-Tylox Super SeaPress Seal Gasket Corp.O-ring, M875; | 78 thru 144 | Northern Concrete Pipe, Inc. |
| | Concrete Pipe | Compression Gasket, Profile Cross Section, O-Ring Cross Section, Pipe Gasket & Supply | 12 thru 24 | Upper Peninsula Concrete Pipe Co. |
| | Concrete Pipe | Profile X-Section Gasket, Hamilton Kent | 12 thru 36 | County Materials Corp. |
| | Corrugated Metal Pipe | H12 Hugger Band with Single Bolt Bar and Strap with Compression Gasket | 12 thru 24 | Contech Engineered Solutions, LLC |
| | Corrugated Metal Pipe | Gasket-Bidco Wrap 12 x 3/8 Band | 12 thru 18 Band 7 24 thru 30 Band 12 & larger Band 21 | Jensen Bridge & Supply Co. |
| | Corrugated Metal Pipe | 12 Bolted Band Angle with Compression Gasket Bidco Wrap 6 x 1/8 Band | 12 thru 72 | Cadillac Culvert |
| Corrugated Metal Pipe | Bolted Corrugated Steel Band with Compression Gasket Ensolite IV Series | 12 thru 24 | St. Regis Culvert Inc. | |

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # and Material Name | Product Name | Manufacturers or Suppliers |
|---|---|--|
| 909.05A1 Polymer Coated Corrugated Steel Pipe | Trenchcoat Protective Film | Valfilm USA |
| 909.06 Class B Bury Plastic Pipe Smooth Lined Corrugated Plastic Pipe (CPE/HDPE); Corrugated Polyvinyl Chloride Pipe (CPV) | Size: 12 – 24 inch (CPE/HDPE) Size: 12 – 24 inch Blue Seal (CPE/HDPE) Size: 12 – 24 inch A-2000 PVC (CPV) Size: 12 – 24 inch HDPE Corrugated Class B (CPE/HDPE) Size: 12 – 24 inch Lane HDPE (CPE/HDPE) Size: 12 – 24 inch GoldFlo WT HDPE (CPE/HDPE) | Advanced Drainage Systems (ADS) Advanced Drainage Systems (ADS) - Hancor Contech Engineered Solutions, LLC Lane Enterprises Lane Enterprises Prinsco, Inc. |
| 909.10 Drainage Marker Post | See Delineator Posts 2. Plastic Material, QPL 919.03D | |
| 910.04 Silt Fence (Geotextile Fabric only) | Belton 940 Geoturf S1200 Geoturf S1240 Geoturf S1240OR Geoturf S1400 Kintex SF-3 GTF - 180 Propex 2130 SKAPS W100 TerraTex SF-D Willacoochee, Style 1210 WINFAB 105SF | Belton Industries, Inc., Norcross, SC CSI Geoturf, Inc., Highland, MI CSI Geoturf, Inc., Highland, MI CSI Geoturf, Inc., Highland, MI CSI Geoturf, Inc., Highland, MI Geoproducts, Inc., Birmingham, MI LinQ Industrial Fabrics Propex Fabrics, Inc., Austell, GA Skaps Industries, Athens, GA Hanes Geo Components, Winston-Salem, NC Willacoochee Industrial Fabrics, Inc., Willacoochee, GA Willacoochee Industrial Fabrics, Inc., Willacoochee, GA |
| 912.08Q Recycled Plastic Or Rubber Guardrail Offset Blocks | <u>Model</u> Type B/BD, MGS-8 and MGS-8D Dura-Bull Bloclout SPI #4 Diamond Block Eco-Block Mondo Block #NREC P-Block Thrie Beam Block EDEN Block Polylumber PL6814R King Block Type T/TD Mondo Block Steel Post Model #NREC Thrie Beam Block EDEN Block Polylumber King Size King Block | Creative Building Products Diamond Roadway Products Eco-Composites LLC Mondo Polymer Technologies Monroeville Industrial Moldings Monroeville Industrial Moldings Project Back to EDEN Ramco International Trinity Industries, Inc. Mondo Polymer Technologies Monroeville Industrial Moldings Project Back to EDEN Ramco International Trinity Industries, Inc. |
| 914.03B Recycled Rubber Joint Filler | Reflex | The J D Russell Company |

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # and Material Name | Product Name | Manufacturers or Suppliers |
|--|--|---|
| 914.06 Epoxy Resin Adhesive & Temporary Seal (Crack Injection) | Crackbond LR321 | Adhesives Technology Corp. |
| | Crackbond SLV302 | Adhesives Technology Corp. |
| | Akabond 817 | Axson, Eaton Rapids, MI (formerly Akemi Corp.) |
| | Akabond 818 | Axson, Eaton Rapids, MI (formerly Akemi Corp.) |
| | Akabond 819 | Axson, Eaton Rapids, MI (formerly Akemi Corp.) |
| | MasterInject 1380 | BASF Construction Chemical, Shakopee, MN |
| | MBT P&R Concsive 1360 | BASF Construction Chemical, Shakopee, MN |
| | BHS-1617 | Blackhawk Sales Co, Inc., Rock Island, IL |
| | BHS-1618 | Blackhawk Sales Co, Inc., Rock Island, IL |
| | BHS-1619 | Blackhawk Sales Co, Inc., Rock Island, IL |
| | Arndite 8560 | Ciba Corporation, East Lansing, MI |
| | True Grip 150 | J. Dedoes, Inc., Milford, MI |
| | NIP124LV | Epoxy Unlimited, Harrison Twp, MI |
| | CI 060 | Hilti Inc., Columbus, OH |
| | Dynapoxy EP-450 | Pecora Corporation |
| E Bond 550 | Ridgemoor Supply, Kentwood, MI | |
| Sikadur 35, Hi-Mod LV | Sika Corporation, Lyndhurst, NJ | |
| Sikadur 52 | Sika Corporation, Lyndhurst, NJ | |
| Pro Poxy 50 Super LV | Unitex, Kansas City, MO | |
| 914.07A Transverse Pavement Joint 1. Dowel Bar Coating (Epoxy) 2. Bond Release | See Reinforcement Bar Coating, QPL 905.03C | |
| | Bond Release Agent - Tectyl 506 BCG Protec 6116 DS MA | Tectyl Ashland Bradley Coatings Group |
| 914.08 Transverse Pavement Joint, <u>Deformed</u> Dowel Bar Coating | See Reinforcement Bar Coating, QPL 905.03C | |
| 914.09 Straight & Bent Tie Bars for Longitudinal Pavement Joints (Lane Ties), Coating | See Reinforcement Bar Coating, QPL 905.03C | |
| 914.11 Preformed Waterproofing Membrane NOTE: Not to be used on Treated Wood Materials. | Carlisle CCW 711-Highway and Bridge Membrane | Carlisle Coatings and Waterproofing |
| | Geotac Waterproofing Membrane Geotac Polyester HS Protecto Wrap M400 AR Sealtight Mel-Dek | Crafco Inc. Crafco Inc. Protecto Wrap Co. W.R. Meadows, Inc. |

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # and Material Name | Product Name | Manufacturers or Suppliers | | | | |
|--|---|--|---|--|---|--|
| <p>915 Coating Systems for Steel Structures, Hanger Assemblies and End Diaphragms</p> <p>NOTES: *Indicates product can be used on faying surfaces of slip critical bolted connections which require Class "B".</p> <p>+Information from the Slip Coefficient and Creep Resistance Test Certificate is given for use with primed bolted connections to meet Class "B" requirements.</p> <p>#Alternative primer can only be used on faying surfaces of slip critical bolted connections which require Class "B".</p> | <p>*Carbozinc 859 <i>+100 hrs min cure, 6 mils max DFT, 10 oz/gal max thin</i></p> <p>Carboguard 893 Carbothane 133 VOC #Carbozinc 11 HS Inorganic Zinc Primer <i>+18 hrs min cure, 6 mils max DFT, 15 oz/gal max thin</i></p> <p>*Carbozinc 859 <i>+100 hrs min cure, 6 mils max DFT, 10 oz/gal max thin</i></p> <p>Carboguard 893 Carbothane 133 LH #Carbozinc 11 HS Inorganic Zinc Primer <i>+18 hrs min cure, 6 mils max DFT, 15 oz/gal max thin</i></p> <p>Interzinc 315B <i>+48 hrs min cure, 4 mils max DFT, no thinner allowed</i></p> <p>Intergard 475HS Interthane 870UHS #Interzinc® 22 Inorganic Zinc-Rich Silicate <i>+24 hrs min cure, 5 mils max DFT, no thinner allowed</i></p> <p>Interzinc 52 Intergard 475 HS Interthane 990HS #Interzinc® 22 Inorganic Zinc-Rich Silicate <i>+24 hrs min cure, 5 mils max DFT, no thinner allowed</i></p> <p>*Amercoat 68HS <i>+168 hrs min cure, 3 mils max DFT, 4 oz/gal max thin</i></p> <p>Amercoat 399 Amercoat 450H #Dimetcote 9VOC Zinc-Rich Primer <i>+24 hrs min cure, 4 mils max DFT, 7 oz/gal max thin</i></p> <p>*Zinc Clad III HS <i>+168 hrs min cure, 5 mils max DFT, 12 oz/gal max thin</i></p> <p>Macropoxy 646 Fast Cure Epoxy Acrolon 218 HS #Corothane I GalvaPac One Pack Zinc Primer <i>+24 hrs min cure, 4 mils max DFT, 0 oz/gal max thin</i></p> | <p>Coats 1st 2nd 3rd</p> <p>1st 2nd 3rd</p> <p>1st 2nd 3rd</p> <p>1st 2nd 3rd</p> <p>1st 2nd 3rd</p> <p>1st 2nd 3rd</p> <p>1st 2nd 3rd</p> <p>1st 2nd 3rd</p> | <p>Carboline Company Approved for use on projects let prior to 05/31/19</p> <p>Carboline Company Approved for use on projects let prior to 06/30/17</p> <p>International Protective Coatings Approved for use on projects let prior to 12/04/16</p> <p>International Protective Coatings Approved for use on projects let prior to 12/04/16</p> <p>PPG Industries Approved for use on projects let prior to 10/30/21</p> <p>Sherwin-Williams Approved for use on projects let prior to 07/31/20</p> | | | |
| | <p>917.12 Seed Varieties</p> <p>Varieties of Seed on QPL Date of Testing Not to Exceed One Year</p> <p>Approved MDOT seed mixtures, see Table 917-1 in the Spec Book.</p> <p>*Species</p> | <p>*Kentucky Blue Grass Arc Baron Bristol Cannon Corsair Diva Guinness Midnight Nassau NuBlue NuBlue Plus Parade Raven RugbyII Touchdown Wildwood</p> | <p>*Perennial Ryegrass Advent Accent II Charger II Fiesta 4 Manhattan 5 Palmer III Pennant III Prelude III Prelude IV Premium Quickstart II SR 4220 SR 4420</p> | <p>*Hard Fescue Aurora II Aurora Gold Matterhorn Nordic Reliant II Reliant IV Rescue Rescue 911 Scaldis II Spartan II SR 3100 SR 3150</p> | <p>*Creeping Red Fescue Cindy Lou Dawson Epic Hector Kent Seabreeze GT Sea Link Shademaster II SR 5210</p> | <p>*Fults Salt Grass Fults Fults II Salty</p> |

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # and Material Name | Product Name | Manufacturers or Suppliers |
|--|--|--|
| 917.15B1 Turf Mulch Blankets, High Velocity Mulch Blankets (Two Sided Net) | AEC Premier Straw Highway Double Net Curlex II Contech High Velocity ERO-MAT ECS-2 Mulch Blanket Enviroscap HV Straw Mulch Blanket S2000 ECB EX32 ECB S32 ETRS-2 RD S2 Erosion Control Blanket WS072B ECS-2D Erosion Control Blanket DS-150 Erosion King High Velocity Double Net Excel SS-2 (Regular) WinterStraw HVW | American Excelsior Co. American Excelsior Co. Contech Engineered Solutions, LLC East Coast Erosion Control Blankets Enviroscap ECM ErosionControlBlanket ErosionControlBlanket Erosion Tech S.I. Geosolutions / Land Green Fix America Hanes Geo Components North American Green Rhino Seed & Landscape Supply Western Excelsior Corp. Winters Excelsior Company |
| 917.15B2 Turf Mulch Blankets, Mulch Blankets (Single Sided Net) | AEC Premier Straw Highway Single Net Curlex 1-CL Curlex I Contech ERO-MAT Futerra Mulch Blanket ECS-1 Mulch Blanket ECS-1D Mulch Blanket Enviroscap Straw Mulch Blanket S1000 ECB EX31 ECB S31 ETRS-1 RD WS05 Erosion Control Blanket DS-75 Xcel Excelior Erosion Control Blankets Erosion King Mulch Blanket S1 Erosion Control Blanket ERO-MAT V75S Excel SR-1 (Regular) WinterStraw SNW | American Excelsior Co. American Excelsior Co. American Excelsior Co. Contech Engineered Solutions, LLC Profile Products, LLC East Coast Erosion Control East Coast Erosion Control Enviroscap ECM ErosionControlBlanket ErosionControlBlanket Erosion Tech Green Fix America North American Green PPS Packaging Co. Rhino Seed & Landscape Supply Synthetic Ind. / BonTerra America Verdyol-Canada Western Excelsior Corp. Winters Excelsior Company |
| 917.15C Mulch Binders (Tackifiers) | <u>1. Latex Base Adhesive</u> BUTOFAN NS 268 EZ Straw Seeding Mulch w/Tack <u>2. Paperfiber Mulch Binders</u> Applegate Mulch Cellin Fiber Mulch Geoturf Hydro Mulch Geoturf Hydro Mulch Plus Geopro Basis Plus Hydro Green Hydroseeding Mulch Hydro Green Hydroseeding Mulch Rhino Greenstar Rhino Greenstar Plus <u>3. Excelsior/Guar Gum Base Adhesive</u> Excel Fiber Mulch ConWed 2000 <u>4. Guar Gum Base Adhesive</u> Geotack EcoTak-OP5 Finn A500 Hydro-Stik Landtack ConTack Lawn Tack <u>5. Hydrophilic Polymers</u> Agro Tack MP Exact-Tac (E-T) Geotack II Con-Tack A/T Eco-Tak-SAT 11 RMB Plus | BASF Corp. Rhino Seed & Turf Supply Applegate Insulation System Cellin Manufacturing, Inc. CSI Geoturf, Inc. CSI Geoturf, Inc. Hanes Geo Components Nu-Wool, Inc. Nu-Wool, Inc. Rhino Seed & Landscape Supply Rhino Seed & Landscape Supply American Excelsior Co. Profile Products, LLC CSI Geoturf, Inc. Eastern Products, Inc. Finn Corporation Midwest Land Supply, Inc. Profile Products, LLC Rhino Seed & Landscape Supply Agro Diversified Industries American Excelsior Co. CSI Geoturf, Inc. Profile Products, LLC Eastern Products, Inc. Reinco Mulch Binder Corp. |

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # and Material Name | Product Name | Manufacturers or Suppliers | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|--------------------------|--------------------------|--------------------------|----------|----------|---------|---------|-------------|---------------|--------------------|--------------------|------------------------------------|----------------|----------------------|----------------------|--|----------------|------------|------------|------------------|------------|---------------|---------|----------------|----------------|------------------|------------------|---|
| 918.06D Light Weight Composite Handholes | Armorcast Box and Cover Assembly A6001640TAPCX12 PHA Series Hand Holes Quazite Box PG1730BA12 & Cover PG1730HA Polymer Concrete Pull Box & Cover FCA 173012 Synertech Underground Enclosure S1730B12FA & Cover S1730HBB0A | Arborcast Products Company Highline Products, Inc. Hubbell NewBasis Synertech Molded Products | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 918.08C Light Standards, Frangible Transformer Bases | <u>11 Inch Bolt Circle</u> TB1-17 Modified TB2-17 <u>13 Inch Bolt Circle</u> TB1-17 TB1-17 Modified | Akron Foundry Co. Akron Foundry Co. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 919.02B1 Reflective Sheeting | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><u>Type III</u> Series</th> <th style="text-align: center;"><u>Type IV</u> Series</th> <th style="text-align: center;"><u>Type IX</u> Series</th> <th style="text-align: center;"><u>Type XI</u> Series</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">3870</td> <td style="text-align: center;">3930</td> <td style="text-align: center;">3990</td> <td style="text-align: center;">4000</td> </tr> <tr> <td style="text-align: center;">--</td> <td style="text-align: center;">T-6500 Series</td> <td style="text-align: center;">T-9500 Series</td> <td style="text-align: center;">T-11500 Series</td> </tr> <tr> <td style="text-align: center;">Nikkalite Ultralite Grade II</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> <td style="text-align: center;">--</td> </tr> </tbody> </table> | <u>Type III</u> Series | <u>Type IV</u> Series | <u>Type IX</u> Series | <u>Type XI</u> Series | 3870 | 3930 | 3990 | 4000 | -- | T-6500 Series | T-9500 Series | T-11500 Series | Nikkalite Ultralite Grade II | -- | -- | -- | 3M Avery Dennison Nippon Carbide | | | | | | | | | | | | |
| <u>Type III</u> Series | <u>Type IV</u> Series | <u>Type IX</u> Series | <u>Type XI</u> Series | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3870 | 3930 | 3990 | 4000 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | T-6500 Series | T-9500 Series | T-11500 Series | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nikkalite Ultralite Grade II | -- | -- | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 919.03D Delineator Post, Plastic, Flexible 1. Ground Mount 2. Surface Mount | Survivor Delineator Post Flexi-Guide 400 Series Flexi-Guide 500 Series Flexstake HD 600 Series Flexstake HD 650 Series Flexstake TM 750 Series SH248GP3 Shur-Flex Driveable Delineator SQR-LOC Flexible Delineator IRS Multipurpose Delineator Post City Post Flexi-Guide FG 300 Model UR Flexi-Guide FG 300 Model EFX K71 Flexible Marker Post SM 700 Series TM 750 Series TSM Series Flexible Delineator Post Shur-Flex Surface Mount Delineator | Carsonite PEXCO, Davidson Traffic Control Products PEXCO, Davidson Traffic Control Products Flexstake Flexstake Flexstake Flexstake Safe-Hit Shur-Tite Trinity Highway/Safe-Hit Impact Recovery Systems PEXCO, Davison Traffic Control Products PEXCO, Davison Traffic Control Products PEXCO, Davison Traffic Control Products US Reflector Flexstake Flexstake New Direction Mfg., Inc. Shur-Tite | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 921.05A Steel Clamps for Traffic Signal Strain Poles | Strain Clamps | Utility Metals | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 922.06A Temporary Traffic Control, Temporary Pavement Markings Type R and NR Tape Paint - See Specific Paint Type in QPL 811.03D *WR Tape is wet-night retro reflective | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><u>White (Type)</u></th> <th style="text-align: center;"><u>Yellow (Type)</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">5160 (NR)</td> <td style="text-align: center;">5161 (NR)</td> </tr> <tr> <td style="text-align: center;">710 (WR)</td> <td style="text-align: center;">711 (WR)</td> </tr> <tr> <td style="text-align: center;">620 (R)</td> <td style="text-align: center;">621 (R)</td> </tr> <tr> <td style="text-align: center;">ATM 200 (R)</td> <td style="text-align: center;">ATM 200 (R)</td> </tr> <tr> <td style="text-align: center;">Deltaline TWR (WR)</td> <td style="text-align: center;">Deltaline TWR (WR)</td> </tr> <tr> <td style="text-align: center;">Series 100 (R)</td> <td style="text-align: center;">Series 100 (R)</td> </tr> <tr> <td style="text-align: center;">Flex-O-Line 200 (NR)</td> <td style="text-align: center;">Flex-O-Line 200 (NR)</td> </tr> <tr> <td style="text-align: center;">Prismoline (R)</td> <td style="text-align: center;">Prismoline (R)</td> </tr> <tr> <td style="text-align: center;">RW-140 (R)</td> <td style="text-align: center;">RY-140 (R)</td> </tr> <tr> <td style="text-align: center;">Aztec 100-W (NR)</td> <td style="text-align: center;">100-Y (NR)</td> </tr> <tr> <td style="text-align: center;">Aztec 102 (R)</td> <td style="text-align: center;">390 (R)</td> </tr> <tr> <td style="text-align: center;">Director-2 (R)</td> <td style="text-align: center;">Director-2 (R)</td> </tr> <tr> <td style="text-align: center;">Visaline CG (NR)</td> <td style="text-align: center;">Visaline CG (NR)</td> </tr> </tbody> </table> | <u>White (Type)</u> | <u>Yellow (Type)</u> | 5160 (NR) | 5161 (NR) | 710 (WR) | 711 (WR) | 620 (R) | 621 (R) | ATM 200 (R) | ATM 200 (R) | Deltaline TWR (WR) | Deltaline TWR (WR) | Series 100 (R) | Series 100 (R) | Flex-O-Line 200 (NR) | Flex-O-Line 200 (NR) | Prismoline (R) | Prismoline (R) | RW-140 (R) | RY-140 (R) | Aztec 100-W (NR) | 100-Y (NR) | Aztec 102 (R) | 390 (R) | Director-2 (R) | Director-2 (R) | Visaline CG (NR) | Visaline CG (NR) | 3M 3M 3M ATM Brite-line Technologies, LLC Brite-line Technologies, LLC FOL Tape, LLC Linear Dynamics/ Carrier & Gable Market Manager Rd Tape, Trelleborg Ind. AB Tape4, LLC Tape4, LLC Volare/ Swarco Industries, Inc. Volare/ Swarco Industries, Inc. |
| <u>White (Type)</u> | <u>Yellow (Type)</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5160 (NR) | 5161 (NR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 710 (WR) | 711 (WR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 620 (R) | 621 (R) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATM 200 (R) | ATM 200 (R) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deltaline TWR (WR) | Deltaline TWR (WR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series 100 (R) | Series 100 (R) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Flex-O-Line 200 (NR) | Flex-O-Line 200 (NR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prismoline (R) | Prismoline (R) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RW-140 (R) | RY-140 (R) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aztec 100-W (NR) | 100-Y (NR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aztec 102 (R) | 390 (R) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Director-2 (R) | Director-2 (R) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Visaline CG (NR) | Visaline CG (NR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

QUALIFIED PRODUCTS LIST (QPL)

| Spec. # and Material Name | Product Name | Manufacturers or Suppliers |
|--|--|--|
| 922.06B Temp. Raised Pavement Markers | Type 1: Model 932 Chip Seal Marker TRPM Chip Seal Marker | Apex Universal, Inc. PEXCO, Davidson Traffic Control Products |
| | Type 2: Model 932 Overlay Marker Temporary Overlay Marker | Apex Universal, Inc. PEXCO, Davidson Traffic Control Products |
| | Type 3: Stimsonite Model 88 | Stimsonite Corporation |
| 922.06C Temporary Pavement Marking, Pavement Marking Cover | <u>Black (Type)</u> ATM-19-285 3M-715 | <u>Other (Type)</u> ATM 3M |