SECTION 21 11 00

FIRE SPRINKLER FITTINGS AND VALVES

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\*\* NOTE TO SPECIFIER \*\* AGF Manufacturing, Inc. ; fire sprinkler products.  
This section is based on the products of AGF Manufacturing, Inc. , which is located at:100 Quaker Ln.Malvern, PA 19355 Tel: 610-240-4900Fax: 610-240-4906Email: [request info (rpancoast@agfmfg.com)](https://arcat.com/rfi?action=email&company=AGF%252BManufacturing%252C%252BInc.%252B&message=RE%253A%2520Spec%2520Question%2520(13910agf)%253A%2520&coid=45677&spec=13910agf&rep=&fax=610-240-4906)  
Web: <https://agfmfg.com>   
 [ [Click Here](https://arcat.com/company/agf-manufacturing-inc-45677) ] for additional information.  
Since our founding, AGF Manufacturing, Inc. has been committed to providing a unique line of products for the fire sprinkler industry. We strive to maintain a close working relationship with our customers in order to meet the ever increasing demands of our industry.  
Over the years, this has helped us introduce many innovative products designed to meet a wide variety of needs. In filling these needs, we have built a strong reputation for providing the best products backed by an unwavering commitment to customer satisfaction. We continually work in the field to improve existing products, as well as invent new items.  
At AGF our mission is to design and manufacture unique products that engineers and architects can specify with confidence based on a proven record of reliability and fiscal accountability, and that make the contractor's job more efficient and competitive by providing cost-effective labor savings.  
Our entire product line is manufactured to the highest quality and meets or exceeds ISO 9002 standards. Our valves are approved by Underwriters Laboratories and FM Approvals. This commitment to quality enhances product reliability and end user satisfaction.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Fire sprinkler fittings and valves including the following:
       1. Test and drain valves.
       2. Auxiliary drains.
       3. Corrosion monitor.
       4. Floor control risers.
       5. Inspectors test and drain valves.
       6. Test water containment system.
       7. Air venting valves.
       8. Accessories.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 22 05 00 - Common Work Results for Plumbing.
    2. Section15300 - Fire Protection Piping.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.
     3. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.
     4. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
  2. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
     3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project. Delete if not required.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
       1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
       2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
       3. Retain mock-up during construction as a standard for comparison with completed work.
       4. Do not alter or remove mock-up until work is completed or removal is authorized.
  1. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
     2. Protect from damage due to weather, excessive temperature, and construction operations.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. SEQUENCING
     1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
  5. WARRANTY
     1. Manufacturer's Warranty: Provide manufacturer's standard limited warranty.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: AGF Manufacturing, Inc. , which is located at:100 Quaker Ln.Malvern, PA 19355 Tel: 610-240-4900Fax: 610-240-4906Email: [request info (rpancoast@agfmfg.com)](https://arcat.com/rfi?action=email&company=AGF%252BManufacturing%252C%252BInc.%252B&message=RE%253A%2520Spec%2520Question%2520(13910agf)%253A%2520&coid=45677&spec=13910agf&rep=&fax=610-240-4906);Web: <https://agfmfg.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. INSPECTORS TEST STATION VALVE

\*\* NOTE TO SPECIFIER \*\* AGF Manufacturing revolutionized the fire sprinkler industry with the Model 1000 TESTanDRAIN single valve inspector's test which eliminated the time and space consuming traditional loop assembly. NFPA requires the addition of a Pressure Relief Valve on all wet systems. Please see MXX11A models for compliance. Delete if not required.

* + 1. Series: TESTanDRAIN as manufactured by AGF Manufacturing, Inc.
       1. The lightweight and compact Models shall be 300 PSI rated single-handle ball valve designed to provide both the test and express drain functions required for a wet fire sprinkler system.
          1. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13, 13R, 13D (as applicable).
          2. Pressure Rating: 300 psig (2070 kPa).
          3. Materials: Bronze body, brass stem, impregnated Teflon seat, chrome coated brass ball, and a steel handle with positive stops at the TEST and DRAIN positions
          4. Components: A tamper resistant test orifice, integral tamper resistant sight glasses, a tapped and plugged port for system access, and a steel identification plate.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch) , as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
        6. Test Orifice Size: Nominal 14.0K (3/4 inch, ESFR), as required by NFPA 13, latest edition.
        7. Test Orifice Size: Nominal K25.2, as required by NFPA 13, latest edition.
        8. Size: Same as connected piping.
        9. Inlet and Outlet: Threaded.

\*\* NOTE TO SPECIFIER \*\* Option. Delete if not required

* + - * 1. Bypass drain port in the valve body for use with a pressure relief valve and associated drainage piping.

\*\* NOTE TO SPECIFIER \*\* The TESTanDRAIN Model 1000 features a tamper resistant test orifice and sight glass, a tapped port for system access, and optional orifices in all specifiable sizes. Delete if not required.

* + - 1. Product: Model M1000:

\*\* NOTE TO SPECIFIER \*\* The TESTanDRAIN Model 1011A features a tamper resistant test orifice and sight glass, a tapped port for system access, pressure relief valve, and optional orifices in all specifiable sizes. Delete if not required.

* + - 1. Product: Model M1011 Type A with pressure relief valve.
         1. Pressure Relief Valve and Drainage Piping: AGF Model 7000

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

Pressure Rating: Factory rated at 175 PSI.

Pressure Rating: 165 PSI.

Pressure Rating: 185 PSI.

Pressure Rating: 195 PSI.

Pressure Rating: 205 PSI.

Pressure Rating: 225 PSI.

Pressure Rating: 250 PSI.

Body Material: Bronze body and stainless steel spring

Components: Nylobraid flexible tube, Two 1/2 inch (25 mm) NPT by barbed 90 degree elbows, external identification plate and integral flushing handle to remove debris

1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm) FIPT outlet

Relief pressure shall be factory set to project specifications

Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure

Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: Model M1011 Type T with pressure relief valve and pressure gauge.
         1. Pressure Relief Valve and Drainage Piping: AGF Model 7000

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

Pressure Rating: Factory rated at 175 PSI.

Pressure Rating: 165 PSI.

Pressure Rating: 185 PSI.

Pressure Rating: 195 PSI.

Pressure Rating: 205 PSI.

Pressure Rating: 225 PSI.

Pressure Rating: 250 PSI.

Body Material: Bronze body and stainless steel spring

Components: Nylobraid flexible tube, Two 1/2 inch (25 mm) NPT by barbed 90 degree elbows, external identification plate and integral flushing handle to remove debris

1/2 inch (13 mm)MIPT inlet, 1/2 inch (13 mm)FIPT outlet

Relief pressure shall be factory set to project specifications

Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure

Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

* + - * 1. Pressure Gauge: AGF Model 7500.
        2. Globe Valve: AGF Model 7600.

\*\* NOTE TO SPECIFIER \*\* The TESTanDRAIN Model 2500 features a tamper resistant test orifice and sight glass, a tapped port for system access, an alternative handle position for unusual installation locations, and optional orifices in all specifiable sizes. Delete if not required.

* + 1. Series: TESTanDRAIN as manufactured by AGF Manufacturing, Inc.
       1. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13, 13R, 13D (as applicable).
       2. Pressure Rating: 300 psig (2070 kPa).
       3. Materials: Bronze body, brass stem, impregnated Teflon seat, chrome coated brass ball, and a steel handle with positive stops at the TEST and DRAIN positions
       4. Components: A tamper resistant test orifice, integral tamper resistant sight glasses, a tapped and plugged port for system access, and a steel identification plate.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - 1. Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.
      2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
      3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
      4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
      5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
      6. Test Orifice Size: Nominal 14.0K (3/4 inch, ESFR), as required by NFPA 13, latest edition.
      7. Test Orifice Size: Nominal K25.2, as required by NFPA 13, latest edition.
      8. Inlet and Outlet Size: 1 inch (25 mm) NPT.
      9. Inlet and Outlet Size: 1-1/4 inches (32 mm) NPT.
      10. Inlet and Outlet Size: 2 inches (51 mm) Groove.

\*\* NOTE TO SPECIFIER \*\* Optional. Delete if not required.

* + - 1. Bypass drain port in the valve body for use with a pressure relief valve and associated drainage piping.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: Model M2500.

\*\* NOTE TO SPECIFIER \*\* The TESTanDRAIN Model 2511 features a tamper resistant test orifice and sight glass, a tapped port for system access, and optional orifices in all specifiable sizes. Delete if not required.

* + - 1. Product: Model M2511. Type A with pressure relief valve. Section A.3. for the M1011 has several more details which should be included here.
         1. Pressure Relief Valve and Drainage Piping: AGF Model 7000

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

Pressure Rating: Factory rated at 175 PSI.

Pressure Rating: 165 PSI.

Pressure Rating: 185 PSI.

Pressure Rating: 195 PSI.

Pressure Rating: 205 PSI.

Pressure Rating: 225 PSI.

Pressure Rating: 250 PSI.

Body Material: Bronze body and stainless steel spring

Components: Nylobraid flexible tube, Two 1/2 inch (25 mm) NPT by barbed 90 degree elbows, external identification plate and integral flushing handle to remove debris

1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm)FIPT outlet

Relief pressure shall be factory set to project specifications

Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure

Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

* + - 1. Product: Model M2511. Type T with pressure relief valve and pressure gauge.
         1. Pressure Relief Valve and Drainage Piping: AGF Model 7000

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

Pressure Rating: Factory rated at 175 PSI.

Pressure Rating: 165 PSI.

Pressure Rating: 185 PSI.

Pressure Rating: 195 PSI.

Pressure Rating: 205 PSI.

Pressure Rating: 225 PSI.

Pressure Rating: 250 PSI.

Body Material: Bronze body and stainless steel spring

Components: Nylobraid flexible tube, Two 1/2 inch (13 mm) NPT by barbed 90 degree elbows, external identification plate and integral flushing handle to remove debris.

1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm) FIPT outlet.

Relief pressure shall be factory set to project specifications

Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure

Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

\*\* NOTE TO SPECIFIER \*\* Type T only. Delete pressure gauge if not required.

* + - * 1. Pressure Gauge: AGF Model 7500.
        2. Globe Valve: AGF Model 7600.

\*\* NOTE TO SPECIFIER \*\* Traveling floor to floor in a skyscraper or going from building to building in a complex to perform the NFPA required, fire sprinkler system inspector's test can be a drain of time, money, and manpower. But with AGF's Model 1200 RemoteTEST, the inspector's test can be performed by a single operator from a single location through a local switch, an auxiliary panel, an FAC panel, or a LAN system.

* + 1. Series: Remote Test Station as manufactured by AGF Manufacturing, Inc.

\*\* NOTE TO SPECIFIER \*\* The RemoteTEST features a TESTanDRAIN valve with a solenoid that allows the inspector's test to be performed remotely by a single operator. It is the only product that enables an individual to perform the inspector's test function (as stipulated in both NFPA 13 and NFPA 25) on multiple systems from a central and remote location.

* + - 1. Product: Model M1200 RemoteTEST
         1. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13, NFPA 13R, NFPA 13D, NFPA 70 and NFPA 72 (as applicable).
         2. Pressure Rating: 300 psig (2070 kPa).
         3. Body Material: Bronze body, brass stem, impregnated Teflon seat, chrome coated brass ball, and a steel handle with positive stops at the TEST and DRAIN positions
         4. Components: A tamper resistant test orifice, integral tamper resistant sight glasses, a tapped and plugged port for system access, and a steel identification plate.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
        6. Test Orifice Size: Nominal 14.0K (3/4 inch, ESFR), as required by NFPA 13, latest edition.
        7. Test Orifice Size: Nominal K25.2, as required by NFPA 13, latest edition.
        8. Size: Same as connected piping. Should have more detail like B.12, B.13 and B.14.
        9. Inlet and Outlet: Threaded.
        10. Solenoid Valve:

24V DC, or 120V AC.

Pressure Rating: 300 psig (2070 kPa).

\*\* NOTE TO SPECIFIER \*\* Optional. Delete if not required.

* + - * 1. Bypass Drain Loop: To connect the solenoid valve outlet to the bypass drain port.

\*\* NOTE TO SPECIFIER \*\* The DRAINanTEST is a compact, single handle, iron body ball valve that is 300 PSI rated and features a tamper resistant test orifice. It is designed for use as the 2" main drain and test valve for testing the alarm devices attached to the alarm check valve of wet pipe sprinkler systems. The Model 1500 can be ordered with a pressure relief valve as the Model 1511. Delete if not required.

* + 1. Series: Alarm Check Test Valve as manufactured by AGF Manufacturing, Inc.
       1. Construction:
          1. Standard: UL's "Procut iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13, 13R, 13D (as applicable).
          2. Pressure Rating: 300 psig (2070 kPa).
          3. Materials: Iron body, brass stem, impregnated Teflon seat, chrome coated brass ball, and a steel handle with positive stops at the TEST and DRAIN positions
          4. Components: A tamper resistant test orifice, a tapped and plugged port for system access, and a steel identification plate.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
        6. Test Orifice Size: Nominal 14.0K (3/4 inch, ESFR), as required by NFPA 13, latest edition.
        7. Test Orifice Size: Nominal K25.2, as required by NFPA 13, latest edition.
        8. Size: 2 inch BSPT.
        9. Inlet and Outlet: Threaded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: Model DRAINanTEST M1500.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: Model DRAINanTEST M1511 with pressure relief valve and drainage piping AGF Model 7000.

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

* + - * 1. Pressure Rating: Factory rated at 175 PSI.
        2. Pressure Rating: 165 PSI.
        3. Pressure Rating: 185 PSI.
        4. Pressure Rating: 195 PSI.
        5. Pressure Rating: 205 PSI.
        6. Pressure Rating: 225 PSI.
        7. Pressure Rating: 250 PSI.
        8. Body Material: Bronze body and stainless steel spring
        9. Components: Nylobraid flexible tube, Two 1/2 inch (25 mm) NPT by barbed 90 degree elbows, external identification plate and integral flushing handle to remove debris
        10. 1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm) FIPT outlet.
        11. Relief pressure shall be factory set to project specifications.
        12. Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure.
        13. Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

\*\* NOTE TO SPECIFIER \*\* Auxiliary drains often become targets for vandals, since most auxiliary drains do not provide standard protection against tampering. The COLLECTanDRAIN M5100 and M5200 provide a consistent and clean appearance, and they feature our Patented Anti-Trip Plate that only allows one valve to be open at a time so sprinkler systems cannot be tripped by improper maintenance or vandalism. Delete if not required.

* 1. AUXILIARY DRAINS
     1. Series: COLLECTanDRAIN as manufactured by AGF Manufacturing, Inc.

\*\* NOTE TO SPECIFIER \*\* The COLLECTanDRAIN M5100 and M5200 both use the M5300 as the base of their design covered by our Patented Anti-Trip Plate. Our Anti-Trip Plates meet NFPA signage requirements and feature a signal red, powdercoat finish for added durability against weathering. The M5100 features a M5100ALBV Water Detector and Alarm that emits a visual and audible warning when the unit needs servicing. Delete if not required.

* + - 1. Product M5100. Easily accessed drain locations that collect small amounts of water over long durations of time.
         1. Standards: NFPA 13 and NFPA 25.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Material: Galvanized Auxiliary Drain with Anti-Trip Plate and Water Detector.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Material: Black Steel Pipe Auxiliary Drain with Anti-Trip Plate and Water Detector.
        2. Components:

1 inch MIPT x FIPT Brass quarter turn ball valve with chrome plated ball.

1 inch MIPT x FIPT Ball Valve with Side Ports.

Water Detection Alarm with Brass Nipple.

Powered by a 9-volt battery to operate a red LED visual indicator and an over 92 dB beeping alarm which are activated when water is present in the COLLECTanDRAIN.

Battery operated system provides multiple years of service for intermittent alarming or can operate continuously for 72 hours. Unit will provide low battery power indication through audible chirp and yellow LED visual indicator.

Device may be optionally hardwired to a 12 to 24 VDC power source.

Unit features a test button to confirm operational integrity, offers left or right side installation, and can be isolated for service or battery replacement.

Unit may be configured to alarm only when temperature is below 45 degreesF or at any temperature.

Device may be wired to provide remote notification with NO and NC terminals.

Anti-Trip Plate (ATP): Prevents the opening of either the upper or lower drain valve unless the opposite valve is in the correct closed position, preventing an accidental/malicious tripping of the alarm valve and filling of the sprinkler system.

ATP is powder coated safety red for corrosion resistance and silk-screened with both "AUXILIARY DRAIN" and operating instructions.

ATP can be locked to prevent tampering.

Anti-Trip Plate Mounting Hardware Set.

Two 1 inch by 2 inch (25 mm by 51 mm) Bell Reducer.

2 inch by 12 inch long (51 mm by 305 mm) Condensate Nipple.

1 inch (25 mm) Galvanized Square Head Plug.

\*\* NOTE TO SPECIFIER \*\* For remote notification capabilities the M5100ALBV can be wired to the Fire Control Panel or BMS. Delete if not required.

* + - * 1. Model: Model M5100ALBV. Water Detector Alarm with Ball Valve.

\*\* NOTE TO SPECIFIER \*\* Water Detector and Alarm with Reversible Water Collection Tee. Delete if not required.

* + - * 1. Model: Model M5150ALBV. Water Detector Alarm with Reversible Tee and Ball Valve. Minimum volume installation (1 oz.).
        2. Model: Model M5150ALBV. Water Detector Alarm with Reversible Tee and Ball Valve. Minimum volume installation (2 oz.).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: Model 5200. Easily accessed drain locations that do not frequently collect water.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Material: Galvanized Auxiliary Drain with Anti-Trip Plate.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Material: Black Steel Pipe Auxiliary Drain with Anti-Trip Plate.
        2. Standards:

UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing.

NFPA 13 and NFPA 25.

* + - * 1. Components:

Two1 inch (13 mm) MIPT x FIPT Brass quarter turn ball valves with chrome plated balls.

Anti-Trip Plate (ATP): Prevents the opening of either the upper or lower drain valve unless the opposite valve is in the correct closed position, preventing an accidental/malicious tripping of the alarm valve and filling of the sprinkler system.

ATP is powder coated safety red for corrosion resistance and silk-screened with both "AUXILIARY DRAIN" and operating instructions.

ATP can be locked to prevent tampering.

Anti-Trip Plate Mounting Hardware Set.

Two 1 inch by 2 inch (25 mm by 51 mm) Bell Reducers.

2 inch by 12 inch long (51 mm by 305 mm) Condensate Nipple.

1 inch (15 mm) Galvanized Square Head Plug.

\*\* NOTE TO SPECIFIER \*\* The M5300 is a pre-assembled auxiliary drain designed to meet NFPA 13 and 25 guidelines addressing proper drainage while offering easy identification and a consistent appearance. The COLLECTanDRAIN M5300ALBV features a M5100ALBV. Water Detector and Alarm that emits a visual and audible warning when the unit needs servicing.

* + - 1. Product: M5300.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Type A: Galvanized Auxiliary Drain.
        2. Type B: Black Steel Pipe Auxiliary Drain.
        3. Type ALBV: Galvanized Auxiliary Drain with Water Detector.
        4. Type ALBV-B: Black Steel Pipe Auxiliary Drain with Water Detector.
        5. Standards:

UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing.

NFPA 13 and NFPA 25.

* + - * 1. Components:

Two 1 inch (25 mm) MIPT x FIPT Brass quarter turn ball valves with chrome plated balls.

Two 1 inch by 2 inch (25 mm by 51 mm) Bell Reducers.

2 inch by 12 inch long (51 mm by 305 mm) Condensate Nipple.

1 inch (25 mm) Galvanized Square Head Plug.

\*\* NOTE TO SPECIFIER \*\* The COLLECTanDRAIN M5400 goes beyond the prevention features of the M5100 and M5200 by providing a temperature controlled environment to deter system failures due to freezing condensation. The heated and insulated cabinet contains an auxiliary drain with a float switch to monitor condensation levels. When condensation reaches a level where maintenance is needed the float switch activates an audible alarm and an LED warning light. The M5400 also features Fire Control Panel and BMS notification capabilities. Deleted if not required.

* + 1. Series: Heated and Insulated Cabinet as manufactured by AGF Manufacturing, Inc.:
       1. Standards: NFPA 13 and NFPA 25.
       2. Components:
          1. Cabinet: A secure locking, red powder coated, insulated cabinet with required signage adhering to NFPA guidelines.
          2. Heating Element: Temperature sensitive internal heating element to prevent excess condensation in the drum drip from freezing.
          3. Float Switch: Activates an audible alarm and visual signal to notify when the auxiliary drain has reached capacity and the drum drip requires draining.
          4. System Alarm Test Button: An integral TEST button allows for system testing.
          5. Thermometer: Externally mounted for easy monitoring of temperature conditions inside the cabinet.
          6. Drain Assembly:

Two 1 inch by 2 inch (25 mm by 51 mm) Bell Reducers.

2 inch by 12 inch long (51 mm by 305 mm) Condensate Nipple.

1 inch (25 mm) Galvanized Square Head Plug.

Two 1 inch (25 mm) MIPT x FIPT Brass quarter turn ball valves with chrome plated balls.

Mounting hardware.

Each unit is fully assembled and ready to be attached to dry pipe systems using galvanized or black piping components and 1-inch brass quarter turn ball valves with chrome plated brass balls.

\*\* NOTE TO SPECIFIER \*\* Delete product not required.

* + - 1. Product: Model 5400A. Cabinet with Galvanized Auxiliary Drain and Heater.
      2. Product: Model 5400B. Cabinet with Black Steel Pipe Auxiliary Drain and Heater.
      3. Product: Model 5400H. Cabinet with Hot Operation Trouble Monitor.
      4. Product: Model 5400D. Cabinet with Remote Dialer.

\*\* NOTE TO SPECIFIER \*\* Recommended for all outdoor installations. Delete if not required.

* + - 1. Product: Model 5580A. All-Weather Cover.

\*\* NOTE TO SPECIFIER \*\* The CORRinSITE is a corrosion monitor manufactured from the same mild carbon steel as the system's piping so it's surface corrodes as the pipe corrodes. When the monitor corrodes beyond it's limit, moisture penetrates the sealed chamber and transforms the brilliant white sight glass to a fluorescent orange color indicating a corrosion problem and a need for further pipe inspection. Delete if not required.

* 1. CORROSION MONITOR
     1. Series: CORRinSITE as manufactured by AGF Manufacturing, Inc.

\*\* NOTE TO SPECIFIER \*\* The CORRinSITE Model 7700 Inline Pipe Corrosion Monitor is suitable for new construction and can be retrofitted into existing fire protection systems. It is available in schedule 10 or 40, powder coated black steel or galvanized pipe. Delete if not required.

* + - 1. Product: Model 7700.
         1. Standards:

NFPA 13 and NFPA 25.

* + - * 1. Specifications:

Service Pressure: 300 PSI.

Operating Temp.: -40 degrees to 200 degrees F.

Material: Mild Carbon Steel.

Wear Dimension: 0.040 inch.

\*\* NOTE TO SPECIFIER \*\* Delete size not required.

Sizes: 2 inches.

Sizes: 2-1/2 inches.

Sizes: 3 inches.

Sizes: 4 inches.

Sizes: 6 inches.

Sizes: 8 inches.

\*\* NOTE TO SPECIFIER \*\* Delete schedule not required.

Schedule 10.

Schedule 40.

For Black and Galvanized Pipe.

\*\* NOTE TO SPECIFIER \*\* Delete finish not required.

* + - * 1. Finish: Powder-coat. Color - Red.
        2. Finish: Hot-dip galvanized.

\*\* NOTE TO SPECIFIER \*\* The CORRinSITE Model 7800 Mechanical Tee Corrosion Monitor is suitable for retrofitting into existing fire protection systems and is available with a painted red or galvanized steel mechanical tee. Delete if not required.

* + - 1. Product: Model 7800.
         1. Standards: NFPA 13 and NFPA 25.
         2. Specifications:

Service Pressure: 300 PSI.

Operating Temp.: -40 degree to 200 degree F.

Material: Mild Carbon Steel.

Wear Dimension: 0.040 inch (1 mm).

\*\* NOTE TO SPECIFIER \*\* Delete size not required.

Sizes: 2 inches (51 mm).

Sizes: 2-1/2 inches (64 mm).

Sizes: 3 inches (76 mm).

Sizes: 4 inches (102 mm).

Sizes: 6 inches (152 mm).

Sizes: 8 inches (203 mm).

\*\* NOTE TO SPECIFIER \*\* Delete schedule not required.

NOT APPLICABLE FOR 7800 NOT APPLICABLE FOR 7800For Black and Galvanized Pipe.

\*\* NOTE TO SPECIFIER \*\* Delete finish not required.

* + - * 1. Finish: Powder-coat. Color - Red.
        2. Finish: Hot-dip galvanized.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. FLOOR CONTROL RISERS
     1. Series: RiserPACK as manufactured by AGF Manufacturing, Inc.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Residential Model M8000 13R. Includes a flow switch, InspectorsTEST Model 3011BV, 3-way globe valve, and a M7500 pressure gauge.
       1. Pre-Assembled TESTanDRAIN Riser:
          1. One-piece bronze casting, lettered on both sides allowing right or left installation and providing required signage for flow direction, test and drain outlet, and gauge location.
          2. Standards:

UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing.

NFPA 13R, 13D.

* + - * 1. Pressure Rating: 300 psig (2070 kPa).
        2. Test Orifice Size 1 inch (25 mm) Model:

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.

* + - * 1. Test Orifice Size 1-1/4, 1-1/2, and 2 inches (32 mm, 38 mm, 51 mm) Models.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

Test Orifice Size: Nominal 2.8 K (3/8 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.

* + - * 1. Size: Same as connected piping.

\*\* NOTE TO SPECIFIER \*\* Delete inlet and outlet size not required.

* + - * 1. Inlet and Outlet: Threaded.
        2. Inlet and Outlet: Grooved 1-1/2 to 2 inches (38 mm to 51 mm).
        3. Inlet and Outlet: Threaded and Grooved 1-1/2 to 2 inches (38 mm to 51 mm).

\*\* NOTE TO SPECIFIER \*\* Optional. Delete if not required.

* + - * 1. 3/4 inch Male x Female ball valve 1 inch (25 mm) Model: Orifice specific outlet designed to accept either a standard garden hose or hard piped drain outlet.
        2. AGF Model 3011BV Inspector's TEST ball valve 1-1/4, 1-1/2, and 2 inch (32 mm, 38 mm, 51 mm) Models.
        3. Water flow alarm switch.
        4. Pressure Gauge: AGF Model 7500.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Residential Model M8000 13D. Includes a flow switch, InspectorsTEST Model 3011A and M7500 Pressure Gauge,
       1. Pre-Assembled TESTanDRAIN Riser:
          1. One-piece bronze casting, lettered on both sides allowing right or left installation and providing required signage for flow direction, test and drain outlet, and gauge location. AVAILABLE PIPE SIZES?
          2. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13R, 13D.
          3. Pressure Rating: 300 psig (2070 kPa).

\*\* NOTE TO SPECIFIER \*\* Delete model size not required.

* + - * 1. Model Test Orifice Size 1 inches (25 mm) Model:

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.

* + - * 1. Model Test Orifice Size 1-1/4, 1-1/2, and 2 inch (32 mm, 38 mm, 51 mm) Models:

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.

* + - * 1. Size: Same as connected piping.

\*\* NOTE TO SPECIFIER \*\* Delete inlet and outlet size not required.

* + - * 1. Inlet and Outlet: Threaded.
        2. Inlet and Outlet: Grooved 1-1/2 to 2 inches (38 mm to 51 mm).
        3. Inlet and Outlet: Threaded and Grooved 1-1/2 to 2 inches (38 mm to 51 mm).

\*\* NOTE TO SPECIFIER \*\* Option. Delete if not required.

* + - * 1. 3/4 inch (19 mm) Male x Female ball valve (1 inch (25 mm) Model): Orifice specific outlet designed to accept either a standard garden hose or hard piped drain outlet.

\*\* NOTE TO SPECIFIER \*\* Option. Delete if not required.

* + - * 1. Model 3011BV Inspector's TEST ball valve (1-1/4, 1-1/2, and 2 inches (32 mm, 38 mm, and 52 mm) Models).
        2. Water flow alarm switch.
        3. Pressure Gauge: AGF Model 7500.
    1. Product: Residential Model M8011 13D. Includes a flow switch, InspectorsTEST Model 3011A, M7500 Pressure Gauge, and a Model 7200 Pressure Relief Valve.
       1. Pre-Assembled TESTanDRAIN Riser:
          1. One-piece bronze casting, lettered on both sides allowing right or left installation and providing required signage for flow direction, test and drain outlet, and gauge location.
          2. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13R, 13D.
          3. Pressure Rating: 300 psig (2070 kPa).

\*\* NOTE TO SPECIFIER \*\* Delete model size not required.

* + - * 1. Model Test Orifice Size 1 inches (25 mm) Model:

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.

* + - * 1. Model Test Orifice Size 1-1/4, 1-1/2, and 2 inch (32 mm, 38 mm, 51 mm) Models:

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.

Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.

* + - * 1. Size: Same as connected piping.

\*\* NOTE TO SPECIFIER \*\* Delete inlet and outlet size not required.

* + - * 1. Inlet and Outlet: Threaded.
        2. Inlet and Outlet: Grooved 1-1/2 to 2 inches (38 mm to 51 mm).
        3. Inlet and Outlet: Threaded and Grooved 1-1/2 to 2 inches (38 mm to 51 mm).

\*\* NOTE TO SPECIFIER \*\* Option. Delete if not required.

* + - * 1. 3/4 inch (19 mm) Male x Female ball valve (1 inch (25 mm) Model): Orifice specific outlet designed to accept either a standard garden hose or hard piped drain outlet.

\*\* NOTE TO SPECIFIER \*\* Option. Delete if not required.

* + - * 1. Model 3011BV Inspector's TEST ball valve (1-1/4, 1-1/2, and 2 inches (32 mm, 38 mm, and 52 mm) Models).
        2. Water flow alarm switch.
        3. Pressure Gauge: AGF Model 7500.
        4. Pressure Relief Valve and Drainage Piping: Model 7000.

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

Pressure Rating: Factory rated at 175 PSI.

Pressure Rating: 165 PSI.

Pressure Rating: 185 PSI.

Pressure Rating: 195 PSI.

Pressure Rating: 205 PSI.

Pressure Rating: 225 PSI.

Pressure Rating: 250 PSI.

* + - * 1. Body Material: Bronze body and stainless steel spring
        2. Components: Nylobraid flexible tube, One 1/2 inch (13 mm) NPT by barbed 90 degree elbow, one 1/2 inch (13mm) NPT by barbed straight adapter, external identification plate and integral flushing handle to remove debris
        3. 1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm) FIPT outlet.
        4. Relief pressure shall be factory set to project specifications.
        5. Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure.

Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Residential Model M8011 13R. Includes a flow switch, InspectorsTEST Model 3011A, Model 7600 3-way Globe Valve, M7500 Pressure Gauge, and a Model 7000 Pressure Relief Valve.
       1. Pre-Assembled TESTanDRAIN Riser:
          1. One-piece bronze casting, lettered on both sides allowing right or left installation and providing required signage for flow direction, test and drain outlet, and gauge location.
          2. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13R, 13D.
          3. Pressure Rating: 300 psig (2070 kPa).

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
        6. Size: Same as connected piping.

\*\* NOTE TO SPECIFIER \*\* Delete inlet and outlet size not required.

* + - * 1. Inlet and Outlet: Threaded 1-1/4 to 2 inches (32 mm to 51 mm)
        2. Inlet and Outlet: Grooved 1-1/2 to 2 inches (38 mm to 51 mm).
        3. Inlet and Outlet: Threaded and Grooved 1-1/2 to 2 inches (38 mm to 51 mm).

\*\* NOTE TO SPECIFIER \*\* Option. Delete if not required.

* + - * 1. Model 3011BV Inspector's TEST ball.
        2. Water flow alarm switch.
        3. Pressure Gauge: AGF Model 7500.
        4. Globe Valve: AGF Model 7600, 1/4 inch 3 mm) 3-way globe valve.

\*\* NOTE TO SPECIFIER \*\* Option. Delete pressure relief valve not required.

* + - * 1. Pressure Relief Valve and Drainage Piping 1-1/4 to 2 inches (32 to 51 mm) Model: AGF Model 7000.

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

* + - * 1. Pressure Rating: Factory rated at 175 PSI.
        2. Pressure Rating: 165 PSI.
        3. Pressure Rating: 185 PSI.
        4. Pressure Rating: 195 PSI.
        5. Pressure Rating: 205 PSI.
        6. Pressure Rating: 225 PSI.
        7. Pressure Rating: 250 PSI.
        8. Body Material: Bronze body and stainless steel spring.
        9. Components: Nylobraid flexible tube, One 1/2 inch (13 mm) NPT by barbed 90 degree elbow, one 1/2 inch (13 mm) NPT by barbed straight adapter, external identification plate and integral flushing handle to remove debris.
        10. 1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm) FIPT outlet.
        11. Relief pressure shall be factory set to project specifications.
        12. Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure.
        13. Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Commercial Model M8000. Includes a flow switch, TESTanDRAIN Model 2500, Model 7600 3-way Globe Valve, and a M7500 Pressure Gauge.

\*\* NOTE TO SPECIFIER \*\* Delete riser model not required.

* + - 1. Riser Model: Pre-Assembled TESTanDRAIN Riser 1-1/4, 1-1/2. and 2 inches (32 mm, 38 mm, 51 mm):
         1. One-piece bronze casting, lettered on both sides allowing right or left side draining, horizontal or vertical installation.
         2. Inlet and Outlet (Cast bronze):

\*\* NOTE TO SPECIFIER \*\* Delete inlet and outlet size not required.

Inlet and Outlet: Threaded.

Inlet and Outlet: Grooved 1-1/2 to 2 inches (38 mm to 51 mm).

Inlet and Outlet: Threaded and Grooved 1-1/2 to 2 inches (38 mm to 51 mm).

* + - * 1. Standard: UL's "Product iQ" listing, or "Approval Guide," published by FM Global, listing. NFPA 13.
        2. Pressure Rating: 300 psig (2070 kPa).
        3. Size: Same as connected piping.
      1. Riser Model: Pre-Assembled TESTanDRAIN Riser 2-1/2, 3, 4, and 6 inch (64 mm, 76 mm, 102 mm, 152 mm):
         1. Schedule 40 fabricated steel body with 3mil powder coated red finish.
         2. Inlet and Outlet (Schedule 40 steel):

Inlet and Outlet: Grooved 2-1/2, 3, 4 and 6 inches (64 mm, 76 mm, 102 mm, 152 mm) Models.

* + - * 1. Standard: UL's "Product iQ" listing, or "Approval Guide," published by FM Global, listing. NFPA 13.
        2. Pressure Rating: 300 psig (2070 kPa).
        3. Size: Same as connected piping.

\*\* NOTE TO SPECIFIER \*\* Delete valve model not required.

* + - 1. Valve Model 2500 TESTanDRAIN valve 1-1/4, 1-1/2, and 2 inch (32 mm, 28 mm, 51 mm) Models:
         1. 1 inch (25 mm) FNPT.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch), as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
      1. Valve Model 2500 TESTanDRAIN valve 2-1/2 and 3 inches (38 mm, 76 mm) Models:
         1. 1-1/4 inches (32 mm) FNPT.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch) , as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
        6. Test Orifice Size: Nominal 14.0K (3/4 inch, ESFR), as required by NFPA 13, latest edition.
        7. Test Orifice Size: Nominal K25.2, as required by NFPA 13, latest edition.
      1. Valve Model 2500 TESTanDRAIN valve 4 and 6 inches (102 mm, 152 mm) Models:
         1. 2 inches (51 mm) Grooved.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch) , as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
        6. Test Orifice Size: Nominal 14.0K (3/4 inch, ESFR), as required by NFPA 13, latest edition.
        7. Test Orifice Size: Nominal K25.2, as required by NFPA 13, latest edition.
        8. Water flow alarm switch.
        9. Pressure Gauge: AGF Model 7500.
        10. 1/4 inch (6 mm), 3-way globe valve: AGF Model 7600.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Commercial Model M8011. Includes a flow switch, TESTanDRAIN Model 2511A, Model 7600 3-way Globe Valve, and a M7500 Pressure Gauge and a model M7000 Pressure Relief Valve.

\*\* NOTE TO SPECIFIER \*\* Delete riser not required.

* + - 1. Riser Model: Pre-Assembled TESTanDRAIN Riser 1-1/4, 1-1/2. and 2 inches (32 mm, 38 mm, 51 mm):
         1. One-piece bronze casting, lettered on both sides allowing right or left side draining, horizontal or vertical installation.

\*\* NOTE TO SPECIFIER \*\* Delete inlet and outlet type not required.

* + - * 1. Inlet and Outlet: Threaded.
        2. Inlet and Outlet: Grooved 1-1/2 to 2 inches (38 mm to 51 mm).
        3. Inlet and Outlet: Threaded and Grooved 1-1/2 to 2 inches (38 mm to 51 mm).
        4. Standard: UL's "Product iQ" listing, or "Approval Guide," published by FM Global, listing. NFPA 13.
        5. Pressure Rating: 300 psig (2070 kPa).
        6. Size: Same as connected piping.
      1. Riser Model: Pre-Assembled TESTanDRAIN Riser 2-1/2, 3, 4, and 6 inches (64 mm, 76 mm, 102 mm, 152 mm):
         1. Inlet and Outlet (Schedule 40 steel): Grooved 2-1/2, 3, 4 and 6 inches (64 mm, 76 mm, 102 mm, 152 mm) Models.
         2. Schedule 40 fabricated steel body with 3mil (.08 mm) powder coated red finish.
         3. Standard: UL's "Product iQ" listing, or "Approval Guide," published by FM Global, listing. NFPA 13.
         4. Pressure Rating: 300 psig (2070 kPa).
         5. Size: Same as connected piping.

\*\* NOTE TO SPECIFIER \*\* Delete valve not required.

* + - 1. Valve Model 2511 TESTanDRAIN valve 1-1/4, 1-1/2, and 2 inch (32 mm, 38 mm, 51 mm) Models:
         1. 1 inch (25 mm) FNPT.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch) , as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition
      1. Valve Model 2511 TESTanDRAIN valve 2-1/2 and 3 inches (64 mm, 76 mm) Models:
         1. 1-1/4 inch FNPT.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch) , as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
        6. Test Orifice Size: Nominal 14.0K (3/4 inch, ESFR), as required by NFPA 13, latest edition.
      1. Valve Model 2511 TESTanDRAIN valve 4 and 6 inches (102 mm, 152 mm) Models:
         1. 2 inch Grooved.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - * 1. Test Orifice Size: Nominal 2.8K (3/8 inch) , as required by NFPA 13, latest edition.
        2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
        3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
        4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
        5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.
        6. Test Orifice Size: Nominal 14.0K (3/4 inch, ESFR), as required by NFPA 13, latest edition.
        7. Test Orifice Size: Nominal K25.2, as required by NFPA 13, latest edition.
      1. Water flow alarm switch.
      2. Pressure Gauge: AGF Model 7500.
      3. 1/4 inch, 3-way globe valve: AGF Model 7600
      4. Pressure Relief Valve and Drainage Piping: AGF Model 7000

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

* + - * 1. Pressure Rating: Factory rated at 175 PSI.
        2. Pressure Rating: 165 PSI.
        3. Pressure Rating: 185 PSI.
        4. Pressure Rating: 195 PSI.
        5. Pressure Rating: 205 PSI.
        6. Pressure Rating: 225 PSI.
        7. Pressure Rating: 250 PSI.
        8. Body Material: Bronze body and stainless steel spring.
        9. Components: Nylobraid flexible tube, Two 1/2 inch (13 mm) NPT by barbed 90 degree elbows, external identification plate and integral flushing handle to remove debris.
        10. 1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm) FIPT outlet.
        11. Relief pressure shall be factory set to project specifications.
        12. Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure.
        13. Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. INSPECTORS TEST VALVES
     1. Standards/Ratings:
        1. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13, 13R, 13D as applicable.
        2. Pressure Rating: 300 psig (2070 kPa).
        3. Components: A tamper resistant test orifice and a tapped port for system access.
        4. Size: F.I.P.T., same as connected piping.
        5. Inlet and Outlet: Threaded.

\*\* NOTE TO SPECIFIER \*\* Delete orifice size not required.

* + - 1. Test Orifice Size: Nominal 2.8K (3/8 inch) , as required by NFPA 13, latest edition.
      2. Test Orifice Size: Nominal 4.2K (7/16 inch), as required by NFPA 13, latest edition.
      3. Test Orifice Size: Nominal 5.6K (1/2 inch), as required by NFPA 13, latest edition.
      4. Test Orifice Size: Nominal 8.0K (17/32 inch), as required by NFPA 13, latest edition.
      5. Test Orifice Size: Nominal 11.2K (5/8 inch, ELO), as required by NFPA 13, latest edition.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Model M3011BV. Inspector's Test Ball Valve. A 300 PSI rated ball valve designed to perform the remote inspector's test function on single story and other applications with the benefit of locating the orifice indoors.
       1. Body Material: Bronze body, brass stem, steel handle, chrome-plated bronze ball, virgin Teflon valve seat.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Model M3011A Inspector's Test with Pressure Relief Valve. includes a Model 7000 Pressure Relief Valve and drainage piping and complies with the requirements of NFPA 13 for the installation of a pressure relief valve on all gridded systems and downstream of all pressure reducing valves.
       1. Body Material: Bronze body, brass stem, steel handle, chrome-plated bronze ball, virgin Teflon valve seat.
       2. Pressure Relief Valve and Drainage Piping: Model 7000.

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

* + - * 1. Pressure Rating: Factory rated at 175 PSI.
        2. Pressure Rating: 165 PSI.
        3. Pressure Rating: 185 PSI.
        4. Pressure Rating: 195 PSI.
        5. Pressure Rating: 205 PSI.
        6. Pressure Rating: 225 PSI.
        7. Pressure Rating: 250 PSI.
      1. Body Material: Bronze body and stainless steel spring
      2. Components: Nylobraid flexible tube, One 1/2 inch (13 mm) NPT by barbed 90 degree elbow, one 1/2 inch (13mm) NPT by barbed straight adapter, external identification plate and integral flushing handle to remove debris
      3. 1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm) FIPT outlet.
      4. Relief pressure shall be factory set to project specifications.
      5. Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure.
      6. Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Model M3011SG Inspector's Test with Sight Glass. A 300 PSI rated ball valve designed to perform the remote inspector's test function on single story and other applications with the benefit of locating the orifice indoors.
       1. Body Material: Bronze body, brass stem, steel handle, chrome-plated bronze ball, virgin Teflon valve seat. Sight Glass: Bronze housing with viewing window.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Product: Model M3011ASG Inspector's Test with Sight Glass and Pressure Relief Valve. Includes a sight glass as well as a Model 7000 Pressure Relief Valve with drainage piping and complies with the requirements of NFPA 13 for the installation of a pressure relief valve on all gridded systems and downstream of all pressure reducing valves.
       1. Body Material: Bronze body, brass stem, steel handle, chrome-plated bronze ball, virgin Teflon valve seat. Sight Glass: Bronze housing with viewing window.
       2. Pressure Relief Valve and Drainage Piping: AGF Model 7000

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

* + - * 1. Pressure Rating: Factory rated at 175 PSI.
        2. Pressure Rating: 165 PSI.
        3. Pressure Rating: 185 PSI.
        4. Pressure Rating: 195 PSI.
        5. Pressure Rating: 205 PSI.
        6. Pressure Rating: 225 PSI.
        7. Pressure Rating: 250 PSI.
      1. Body Material: Bronze body and stainless steel spring.
      2. Components: Nylobraid flexible tube, One 1/2 inch (13 mm) NPT by barbed 90 degree elbow, one 1/2 inch (13 mm) NPT by barbed straight adapter, external identification plate and integral flushing handle to remove debris
      3. 1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm) FIPT outlet.
      4. Relief pressure shall be factory set to project specifications.
      5. Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure.
      6. Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

\*\* NOTE TO SPECIFIER \*\* TESTanSAVE is a water containment system for fire sprinkler systems that recirculates the test water through the system during testing instead of discharging the test water to the outside. Delete if not required.

* 1. TEST WATER CONTAINMENT SYSTEM
     1. Product: TESTanSAVE as manufactured by AGF Manufacturing, Inc.
     2. Procedure: TESTanSAVE recirculates the sprinkler system test water back through the supply riser eliminating the need to reintroduce new water into the sprinkler system during testing. Its three step process is simple. First, water is brought in to perform the inspector's test on the first floor. Next, instead of water being drained to the outside, test water is recirculated into the system through the TESTanSAVE. Then, the recirculated water is used to perform the inspector's test on all of the additional floors.

\*\* NOTE TO SPECIFIER \*\* The separation chamber and air scoop is designed to force a separation of air from the water as the system fills. Since the chamber has a larger diameter than the branch line, water entering the chamber is momentarily slowed allowing the heavier water to drop as the air rises and is scooped into the venting assembly. As water exits the chamber it is reduced back to the branch line's pipe diameter which pushes air back towards the back side of the air scoop through it's Quick Vent Channel where it is released by the M7900AAV. The larger diameter of the M7950ILV separation chamber allows air remaining in the system to be more effectively released by the 7900AAV. When draining the system unscrew the cap and open the purge valve, this will act as a vacuum break helping to drain the system more effectively while reducing the need to reseat gaskets while refilling the system. Delete if not required.

* 1. AIR VENTING VALVES
     1. Series: PURGEnVENT as manufactured by AGF Manufacturing, Inc.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: Model M7910MAV. Manual Air Venting Valve is a 1/2 inch (13 mm) ball valve with a mesh strainer and ball float.
         1. Standard: UL's "Product iQ" . NFPA 13, 13R, 13D (as applicable).
         2. Pressure Rating: 300 psig (2070 kPa).
         3. Body Material: Forged brass body.
         4. Components: Stainless steel inlet screen (60 mesh), polypropylene float,
         5. Inlet Size: 1/2 inch (13 mm) NPT.
         6. Outlet Size: 1/2 inch (13 mm) NPT.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: M7900AAV Automatically Vent Air from the System. Automatic Air Venting Valve is a 1 inch (25 mm) ball valve, strainer, air vent, and purge assembly.
         1. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13, 13R, 13D (as applicable).
         2. Pressure Rating: 300 psig (2070 kPa), 175 psi (1205 kPa) for air vent.
         3. Body Material: Forged brass body.
         4. Components: Integrated ball valve, stainless steel strainer, purge valve with hose connection (Field adjustable), thread cap with lanyard, automatic air vent.
         5. Inlet Size: 1 inch NPT.
         6. Outlet Size: 3/4 inch (19 mm) NPT.

\*\* NOTE TO SPECIFIER \*\* Delete product if not required.

* + - * 1. Optional Water Collection Accessories:

Product: Model 7920AI. Water Collection Assembly with Audible Alarm.

Product: Model 7925VI. Water Collection Assembly with Visual Indicator.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: M7930ECA Automatic Air Venting Valve with End Cap. The Model 7930ECA includes an end cap so it is easily installed onto the end of branch lines with a coupling.
         1. Standard: UL's "Fire Protection Equipment Directory" listing or "Approval Guide," published by FM Global, listing. NFPA 13, 13R, 13D (as applicable).
         2. Includes M7900AAV.
         3. Pressure Rating: 300 psig (2070 kPa).
         4. End Cap: Painted, Ductile Iron with Groove end and 1" NPT offset connection.

\*\* NOTE TO SPECIFIER \*\* Delete inlet size not required.

* + - * 1. Inlet Size:

2 inches (51 mm) Grooved end.

2.5 inches (64 mm) Grooved end.

3 inches (76 mm) Grooved end.

4 inches (102 mm) Grooved end.

6 inches (152 mm) Grooved end.

8 inches (203 mm) Grooved end.

\*\* NOTE TO SPECIFIER \*\* Delete product if not required.

* + - * 1. Optional Water Collection Accessories:

Product: Model 7920AI. Water Collection Assembly with Audible Alarm.

Product: Model 7925VI. Water Collection Assembly with Visual Indicator.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: M7950ILV In-Line Automatic Air Venting Valve. The separation chamber and air scoop is designed to force a separation of air from the water as the system fills.
         1. Standard: UL's "Fire Protection Equipment Directory" listing or "Approval Guide," published by FM Global, listing. NFPA 13, 13R, 13D (as applicable).
         2. Includes M7900AAV.
         3. Pressure Rating: 300 psig (2070 kPa).
         4. Separation Chamber: Carbon steel body with threaded fitting for machined brass Air Scoop attachment. Powder coated Safety Red.

\*\* NOTE TO SPECIFIER \*\* Delete inlet and outlet size not required.

* + - * 1. Inlet and Outlet Size: 2 inches (51 mm) Grooved ends.
        2. Inlet and Outlet Size: 2.5 inches (64 mm) Grooved ends.
        3. Inlet and Outlet Size: 3 inches (76 mm) Grooved ends.
        4. Inlet and Outlet Size: 4 inches (102 mm) Grooved ends.
        5. Inlet and Outlet Size: 6 inches (152 mm) Grooved ends.
        6. Inlet and Outlet Size: 8 inches (203 mm) Grooved ends.

\*\* NOTE TO SPECIFIER \*\* Delete product if not required.

* + - * 1. Optional Water Collection Accessories:

Product: Model 7920AI. Water Collection Assembly with Audible Alarm.

Product: Model 7925VI. Water Collection Assembly with Visual Indicator.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. ACCESSORIES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Smartgauge Pressure Gauge With Drag Needle:
       1. Product: Model SMARTGAUGE Model 7550. A 4 inches (102 mm) pressure gauge with a drag pointer designed to record system pressure spikes caused by municipal water supplies or pumps that are not working properly. Installed on a wet system temporarily or permanently to record pressure spikes so pressure relief valves can be sized correctly.
       2. Accuracy: Plus or minus 1 percent full scale.
       3. Pressure Gauge Range: 0-400 PSI (outside), 0-2740 kPa (inside)
       4. Connection: Brass, 1/4" (6 mm) NPT, Bottom

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Pressure Gauge:
       1. Product: Model 7500.
       2. The pressure gauge is a UL Listed/FM Approved 4 inches (102 mm) pressure gauge designed for use on wet fire sprinkler systems. Designed to meet NFPA 13 requirements (2007 Edition) 7.1.1.1 - 7.1.1.2, 7.2.1 - 7.3.1.3, 7.8.7, 8.16.1.2.2, and 8.17.3. The AGF 1/4 inch (6 mm) 3-Way Globe Valve Model 7600 is designed to connect the pressure gauge to the sprinkler systems. The Model 7600 is designed to meet NFPA 13 System Attachments stating "...each gauge shall be equipped with a shutoff valve and provision for drainage". 1/4 inch (6 mm) Steel Plug not included.
       3. Standard: UL 393. NFPA 13, 13R, 13D (as applicable).
       4. Dial Size: 3-1/2 inches.
       5. Pressure Gauge Range: 0-300 PSI (Inside), 0-2000 kPa (Outside).
       6. Water System Piping Gauge: Include "WATER" label on dial face.
       7. Accuracy: Plus or minus 3-2-3 percent.
       8. Components:
          1. Burdon Tube: Phosphor Bronze.
          2. Window: Polycarbonate one-piece ring and crystal.
          3. Dial: Galvalume.
          4. Pointer: Aluminum, painted black.
          5. Case: PGE XenoyDX2735.
          6. Connection: Brass, 1/4 inch (6 mm) ANPT LM.
    2. Pressure Relief Valves:

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: Model 7000 Pressure Relief Valve. Designed to relieve excess pressure caused by pressure surges or temperature changes in all wet fire sprinkler systems.
         1. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13, 13R, 13D (as applicable).

\*\* NOTE TO SPECIFIER \*\* Delete pressure rating not required.

* + - * 1. Pressure Rating: Factory rated at 175 PSI.
        2. Pressure Rating: 165 PSI.
        3. Pressure Rating: 185 PSI.
        4. Pressure Rating: 195 PSI.
        5. Pressure Rating: 205 PSI.
        6. Pressure Rating: 225 PSI.
        7. Pressure Rating: 250 PSI.
        8. Body Material: Bronze body and stainless steel spring.
        9. Components: External identification plate and integral flushing handle to remove debris
        10. 1/2 inch (13 mm) MIPT inlet, 1/2 inch (13 mm) FIPT outlet.
        11. Relief pressure shall be factory set to project specifications.
        12. Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure.
        13. Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product: Model 7200 Pressure Relief Valve. Designed to provide the relief, test, and drain functions in a single valve.
         1. Standard: UL's "Product iQ" listing or "Approval Guide," published by FM Global, listing. NFPA 13, 13R, 13D (as applicable).
         2. Pressure Rating: Factory rated at 175 PSI.
         3. Relief pressure shall be factory set to project specifications
         4. Body Material: Bronze body and stainless steel spring.
         5. Components: External identification plate and integral flushing handle to remove debris.
         6. 3/4 inch MIPT inlet, 3/4 inch (19 mm) FIPT outlet.
         7. Relief valve shall operate to the OPEN position between 90 percent and 105 percent of the set pressure
         8. Relief valve shall reseat or CLOSE at a minimum of 80 percent of set pressure.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Globe Valve:
       1. Product; Model 7600 Globe valve as manufactured by AGF Manufacturing, Inc.
       2. Standard: UL's "Product iQ" listing. Conforms to NFPA standards NFPA-13, NFPA-13R and NFPA-13D.
       3. Bronze body and stem.
       4. 1/4 inch (6 mm) NPT inlet and outlet connections.
       5. 1/4 inch (6 mm) test/drain port with a plug to facilitate draining of valve/gauge assemblies.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Valve Repair Kits:
       1. Product: TESTanDRAIN Repair Kits. Available for all TESTanDRAIN Valve models: 1000, 1011, 2500, 2511, RemoteTEST Model 1200, and DRAINanTEST Model 1500.

\*\* NOTE TO SPECIFIER \*\* Locking Plate Kits are available for 1000 and 2500 Series TESTanDRAIN and 1500 Series DRAINanTEST valves. Designed to provide vandal resistance and to prevent unintentional alarm activation. Delete if not required.

* + 1. Locking Plate Kits:
       1. Product: TESTanDRAIN Locking Plate Kits.
       2. Provides vandal resistance and prevents accidental alarm activation by locking the valve handle in the "OFF" position.
          1. Locking Plate: Carbon steel.
          2. Lock: 1-1/2 inches (38 mm) wide solid brass with a 1/4 inch (6.4 mm) chrome plated hardened steel shackle.
          3. For use with a 1 inch (25 mm), 1-1/4 inches (32 mm), 2 inches (51 mm) valves.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.
      2. Test for proper operation and adjust until satisfactory results are obtained.
   4. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturer's recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION