SECTION 33 42 36

STORMWATER TRENCH DRAINS

Display hidden notes to specifier. (Don't know how? [Click Here](https://www.arcat.com/sd/display_hidden_notes.shtml))

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\*\* NOTE TO SPECIFIER \*\* BG-Graspointner USA Inc.; sustainable trench drainage solutions.  
This section is based on the products of BG-Graspointner USA Inc., which is located at:  
134 Boynton Ave.  
Plattsburgh, NY 12901  
Tel: 518 299 1500  
Email: [request info (sales.usa@bg-graspointner.com )](https://admin.arcat.com/users.pl?action=UserEmail&company=BG-Graspointner+USA+Inc.&coid=53195&rep=&fax=&message=RE:%20Spec%20Question%20(02630bsg):%20%20&mf=)  
Web: <https://www.bg-graspointner.com>   
 [ [Click Here](https://www.arcat.com/arcatcos/cos53/arc53195.html) ] for additional information.  
BG-Graspointner is a family owned company with a global presence in over 31 countries, and more than 14 subsidiaries world-wide. We began in 1963 by producing concrete components that were sold locally, and we still have our head office in the beautiful area of Mondsee, in the Austrian Alps. Since then we have become a leader in the field of Trench drains continuing to expand our global footprint and our reach to the North American market.

1. GENERAL
   1. SECTION INCLUDES

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

* + 1. Trench Drains
    2. Slot Drains
    3. Permeable Pavers
  1. RELATED SECTIONS

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

* + 1. Section 03 30 00 - Cast-in-Place Concrete (03 30 00) - Cast-in-Place Concrete.
    2. Section (31 23 00) - Excavation and Fill.
    3. Section (33 41 00) - Storm Utility Drainage Piping.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Disabilities Act (ADA).
    2. ASTM International (ASTM):
       1. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
       2. ASTM C666 - Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing.
       3. ASTM C1202 - Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration.
    3. The European Committee for Standardization (CEN):
       1. EN 1433 - Drainage channels for vehicular and pedestrian areas. Classification, design and testing requirements, marking and evaluation of conformity.
  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.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of trench drain, including grate.
    2. Shop Drawings: Include details indicating layout, dimensions, materials, components, and accessories. Include relationship with adjacent construction.
    3. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
    4. Warranty Documentation: Submit manufacturer's standard warranty.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum ten years documented experience.
        1. Manufacturer's Project References: List of successfully completed drainage channel system projects, including project name and location, name of architect, and type and quantity of drainage channel systems furnished.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience with projects of similar scope and complexity.
        1. Installer's Project References: List of successfully completed drainage channel system projects, including project name and location, name of architect, and type and quantity of drainage channel systems installed.
        2. Employ persons trained for installation of drainage channel systems.
     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.

* + 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.
     2. Agenda Shall Include:
        1. Materials.
        2. Schedule.
        3. Responsibilities.
        4. Critical path items
        5. Approvals.
        6. Installation.
        7. Adjusting.
        8. Cleaning.
        9. Protection.
        10. Coordination with other Work.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
     2. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
        1. Keep materials in manufacturer's original, unopened containers and packaging until installation.
        2. Store materials in clean areas, protected from exposure to harmful weather conditions.
        3. Store materials out of direct sunlight.
     3. 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.
     2. Cold Weather:
        1. Do not use frozen materials.
        2. Do not use materials mixed or coated with ice or frost.
        3. Do not build on frozen Work.
     3. Wet Weather: Do not build on wet, saturated, or muddy subgrade.
  4. WARRANTY
     1. Manufacturer's standard limited warranty unless indicated otherwise.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: BG-Graspointner USA Inc., which is located at: 134 Boynton Ave.; Plattsburgh, NY 12901; Tel: 518 299 1500; Email: [request info (sales.usa@bg-graspointner.com )](https://admin.arcat.com/users.pl?action=UserEmail&company=BG-Graspointner+USA+Inc.&coid=53195&rep=&fax=&message=RE:%20Spec%20Question%20(02630bsg):%20%20&mf=); Web: <https://www.bg-graspointner.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 article if not required.

* 1. TRENCH DRAINS
     1. Basis or Design: BG-FILCOTEN Precast Concrete Drainage Channel Systems as manufactured by BG Graspointner.

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

* + - 1. Product: BG-FILCOTEN tec V / Commercial Duty with Integral 0.08 inches (2 mm) Galvanized Steel Rail.
         1. Features:

Heat, Frost and UV-resistant.

High impact resistance and stability.

High compressive strength.

Non-flammable.

No pollutants.

Recyclable: 100 percent.

* + - * 1. Certified: CE.
        2. Frost Thaw Salt Tested as per EN 1433.
        3. Load Class: A15 kN to E600 kN in accordance with EN 1433.
        4. NW100 Dimensions (WxL): 5.12 x 39.40 inches (130 x 1,000 mm) long.

Drain Width: 4 inches (100 mm).

Overall Height: 5.31 to 9.65 inches (135 to 245 mm).

Wall Thickness: 0.59 inches (15 mm).

Weight per Section without Grating: 28.66 to 69.89 inches (13.0 to 31.7 kg).

\*\* NOTE TO SPECIFIER \*\* Delete internal slope option not required.

* + - * 1. Internal Slope: None.
        2. Internal Slope: 0.5 percent.
        3. Body: Filcoten HPC. Fiber-reinforced high performance concrete composite. Interlocking ends. 100 Percent recyclable. Fiber Content: Minimum 0.4 percent by volume.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing and thawing according to ASTM C666.

Resistant to chloride ion penetration according to ASTM C 1202.

Material free of VOC, biocides, heavy metals.

\*\* NOTE TO SPECIFIER \*\* Delete edges and bottom outlet options not required.

* + - * 1. Rails: Galvanized steel; tec V.
        2. Bottom Outlet: None.
        3. Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.
        4. Cross Bars: None in channel cross section.
        5. Sealant Joints: Male side of channel body.
        6. Surface Exterior: Rough for good adhesion to concrete casing.
        7. Surface Interior: Smooth for maximum discharge rate.
        8. Integrated Anchoring Ribs: For mechanical fixing in concrete casing.
        9. Heavy Duty Galvanized Steel Rail: Integral 0.08 inch (2 mm) thick.
        10. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories options not required.

Sump: Precast fiber-reinforced composite concrete with concreted galvanized steel edge matching channels.

Silt Bucket: Plastic.

Front and End Plates: Plastic , with outlet.

Front and End Plates: Plastic , without outlet.

Rebar Supports: Galvanized steel.

Anti-vandalism Locking Device: Stainless steel.

\*\* NOTE TO SPECIFIER \*\* End caps and catch basins are optional. Delete options not required.

* + - * 1. End caps.
        2. Catch basins.
        3. Grates: Secured to body with four point self-locking system.

\*\* NOTE TO SPECIFIER \*\* Delete grating options not required.

Grating: Reinforced slotted grating, galvanized, class A 15 kN.

Grating: Reinforced slotted grating, galvanized, class C 250 kN.

Grating: ADA Mesh grating, galvanized, class B 125 kN.

Grating: ADA Mesh grating, galvanized, class C 250 kN.

Grating: ADA HEELPROOF Perforated grating, galvanized, class A 15 kN.

Grating: ADA HEELPROOF Perforated grating, galvanized, class C 250 kN.

Grating: Ductile iron slotted grating, class E 600 kN.

Grating: ADA Ductile iron longitudinal grating, class D 400 kN.

Grating: ADA HEELPROOF Ductile iron longitudinal grating, class C 250 kN.

Grating: HEELPROOF Ductile iron grating KIARO class D 400 kN.

Grating: HEELPROOF Ductile iron grating VIA class D 400 kN.

Grating: HEELPROOF Ductile iron decorative grating VILLE, class E 600 kN.

Grating: ADA HEELPROOF COMBee grating, polyamide, class B 125 kN.

Grating: ADA HEELPROOF COMBee grating, polyamide, class C 250 kN

* + - 1. Product: BG-FILCOTEN tec E Commercial Duty with Integral 0.08 inches (2 mm) Stainless Steel Rail.
         1. Features:

Heat, Frost and UV-resistant.

High impact resistance and stability.

High compressive strength.

Non-flammable.

No pollutants.

Recyclable: 100 percent.

* + - * 1. Certified: CE.
        2. Frost Thaw Salt Tested as per EN 1433.
        3. Load Class: A15 kN to E600 kN in accordance with DIN1958.
        4. NW100 Dimensions (WxL): 5.12 x 39.40 inches (130 x 1,000 mm) long.

Drain Width: 4 inches (100 mm).

Overall Height: 5.31 to 9.65 inches (135 to 245 mm).

Wall Thickness: 0.59 inches (15 mm).

Weight per Section without Grating: 28.66 to 69.89 inches (13.0 to 31.7 kg).

\*\* NOTE TO SPECIFIER \*\* Delete internal slope option not required.

* + - * 1. Internal Slope: None.
        2. Internal Slope: 0.5 percent.
        3. Body: Filcoten HPC. Fiber-reinforced high performance concrete composite. Interlocking ends. 100 Percent recyclable. Fiber Content: Minimum 0.4 percent by volume.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing and thawing according to ASTM C666

Resistant to chloride ion penetration according to ASTM C 1202

Material free of VOC, biocides, heavy metals.

\*\* NOTE TO SPECIFIER \*\* Delete edges and bottom outlet options not required.

* + - * 1. Rails: Stainless steel; tec E.
        2. Bottom Outlet: None.
        3. Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.
        4. Cross Bars: None in channel cross section.
        5. Sealant Joints: Male side of channel body.
        6. Surface Exterior: Rough for good adhesion to concrete casing.
        7. Surface Interior: Smooth for maximum discharge rate.
        8. Integrated Anchoring Ribs: For mechanical fixing in concrete casing.
        9. Extra Heavy Duty Stainless Steel Rail: Integral 0.08 inch (2 mm) thick.
        10. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories options not required.

Sump: Precast fiber-reinforced composite concrete with concreted galvanized steel edge matching channels.

Silt Bucket: Plastic.

Front and End Plates: Plastic with outlet.

Front and End Plates: Plastic, without outlet.

Rebar Supports: Galvanized steel.

Anti-vandalism Locking Device: Stainless steel.

\*\* NOTE TO SPECIFIER \*\* End caps and catch basins are optional. Delete options not required.

* + - * 1. End caps.
        2. Catch basins.
        3. Grates: Secured to body with four point self-locking system.

\*\* NOTE TO SPECIFIER \*\* Delete grating options not required.

Grating for NW100: Reinforced slotted grating, stainless steel, class A 15 kN.

Grating for NW100: Reinforced slotted grating, stainless steel, class C 250 kN.

Grating for NW100: ADA Mesh grating, stainless steel, class C 250 kN.

Grating for NW100: ADA HEELPROOF Perforated grating, stainless steel, class A 15 kN.

Grating for NW100: ADA HEELPROOF Perforated grating, stainless steel, class C 250 kN.

Grating for NW150: ADA Mesh grating, stainless steel, class C 250 kN.

Grating for NW150: ADA HEELPROOF Perforated, Stainless, class C 250 kN.

Grating for NW200: ADA Mesh grating, stainless steel, class C 250 kN.

Grating for NW200: ADA HEELPROOF Perforated grating, stainless steel, class C 250 kN.

* + - 1. Product: BG-FILCOTEN pro V Heavy Duty with Integral (4 mm) Galvanized Steel Rails.
         1. Certified: CE.
         2. Frost Thaw Salt Tested as per EN 1433.
         3. Load Class: A15kN to E600kN.

\*\* NOTE TO SPECIFIER \*\* Delete NW Series and weight per section options not required.

* + - * 1. NW150 Dimensions (WxL): 7.4 x 39.40 inches (188 x I,000 mm) long.

Drain Width: 6 inches (150 mm)

Overall Height: 210 to 310 mm.

Wall Thickness: 19 mm.

Weight per Section without Grating: 30.8 to 46.9 kg.

* + - * 1. NW200 Dimensions (WxL): 9.37 x 39.40 inches (238 x I,000 mm) long.

Drain Width: 8 inches (200 mm).

Overall Height: 265 to 365 mm.

Wall Thickness: 19 mm.

Weight per Section without Grating: 44. to 62.7 kg.

* + - * 1. NW300 Dimensions (WxL): 14.17 x 39.40 inches (360 x I,000 mm) long.

Drain Width: 12 inches (300 mm).

Overall Height: 360 to 460 mm.

Wall Thickness: 30 mm.

Weight per Section without Grating: 74.3 to 107.7 kg.

\*\* NOTE TO SPECIFIER \*\* Delete internal slope option not required.

* + - * 1. Internal Slope: None.
        2. Internal Slope: 0.5 percent.
        3. Body: Filcoten HPC. Fiber-reinforced concrete composite. Interlocking ends 100 Percent recyclable. Fiber Content: Minimum 0.4 percent by volume.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing & thawing according to ASTM C666.

Resistant to chloride ion penetration according to ASTM C 1202.

Material free of VOC, biocides, heavy metals.

\*\* NOTE TO SPECIFIER \*\* Delete edges and bottom outlet options not required.

* + - * 1. Edges: Galvanized steel.
        2. Bottom Outlet: None.
        3. Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.
        4. Cross Bars: None in channel cross section.
        5. Sealant Joints: Male side of channel body.
        6. Surface Exterior: Rough for good adhesion to concrete casing.
        7. Surface Interior: Smooth for maximum discharge rate.
        8. Integrated Anchoring Ribs: For mechanical fixing in concrete casing.
        9. Extra Heavy Duty Stainless Steel Rail: Integral 0.16 inch (4 mm) thick.
        10. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories options not required.

Sump: Precast fiber-reinforced composite concrete with concreted galvanized steel edge matching channels.

Silt Bucket: Plastic.

Front and End Plates: Galvanized steel, with outlet.

Front and End Plates: Stainless steel, with outlet.

Front and End Plates: Galvanized steel, without outlet.

Front and End Plates: Stainless steel, without outlet.

\*\* NOTE TO SPECIFIER \*\* The following 3 items do not apply to NW300. Delete options not required.

Rebar Supports: Galvanized steel.

Step Connector Plates: Galvanized steel.

Anti-vandalism Locking Device: Stainless steel.

\*\* NOTE TO SPECIFIER \*\* The following 4 items are for NW300 only. Delete options not required.

End Caps for Catch Basins: Connection cut-outs, galvanized steel.

Catch basin extension unit.

Pipe Connectors: DN200 PVC.

Step Connector Plates: Galvanized steel.

\*\* NOTE TO SPECIFIER \*\* End caps and catch basins are optional. Delete options not required.

* + - * 1. End caps.
        2. Catch basins.
        3. Grates: Secured to body with four point self-locking system.

\*\* NOTE TO SPECIFIER \*\* Delete grating options not required.

Grating for NW100: Reinforced slotted grating, galvanized, class A 15 kN.

Grating for NW100: Reinforced slotted grating, galvanized, class C 250 kN.

Grating for NW100: ADA Mesh grating, galvanized, class B 125 kN.

Grating for NW100: ADA Mesh grating, galvanized, class C 250 kN.

Grating for NW100: ADA HEELPROOF Perforated grating, galvanized, class A 15 kN.

Grating for NW100: ADA HEELPROOF Perforated grating, galvanized, class C 250 kN.

Grating for NW100: Ductile iron slotted grating, class E 600 kN.

Grating for NW100: ADA Ductile iron longitudinal grating, class D 400 kN.

Grating for NW100: ADA HEELPROOF Ductile iron longitudinal grating, class C 250 kN.

Grating for NW100: HEELPROOF Ductile iron grating KIARO class D 400 kN.

Grating for NW100: HEELPROOF Ductile iron grating VIA class D 400 kN.

Grating for NW100: HEELPROOF Ductile iron decorative grating VILLE, class E 600 kN.

Grating for NW100: ADA HEELPROOF COMBee grating, polyamide, class B 125 kN.

Grating for NW100: ADA HEELPROOF COMBee grating, polyamide, class C 250 kN.

Grating for NW150: ADA Mesh grating, galvanized, class B 125 kN.

Grating for NW150: ADA Mesh grating, galvanized, class C 250 kN.

Grating for NW150: ADA Mesh grating, galvanized, class D 400 kN.

Grating for NW150: ADA HEELPROOF Perforated grating, galvanized, class C 250 kN.

Grating for NW150: Ductile iron slotted grating, class E 600 kN.

Grating for NW150: ADA Ductile iron longitudinal grating, class D 400 kN.

Grating for NW150: HEELPROOF Ductile iron grating KIARO, class D 400 kN.

Grating for NW150: HEELPROOF Ductile iron grating VIA, class D 400 kN.

Grating for NW150: HEELPROOF Ductile iron grating VILLE, class E 600 kN.

Grating for NW200: ADA Mesh grating, galvanized, class B 125 kN.

Grating for NW200: ADA Mesh grating, galvanized, class C 250 kN.

Grating for NW200: ADA Mesh grating, galvanized, class D 400 kN.

Grating for NW200: ADA HEELPROOF Perforated grating, galvanized, class C 250 kN.

Grating for NW200: Ductile iron slotted grating, class E 600 kN.

Grating for NW200: ADA Ductile iron longitudinal grating, class D 400 kN.

Grating for NW200: HEELPROOF Ductile iron grating KIARO, class D 400 kN.

Grating for NW200: HEELPROOF Ductile iron grating VIA, class D 400 kN.

Grating for NW200: HEELPROOF Ductile iron decorative grating VILLE class E 600 kN.

Grating for NW300: ADA Mesh grating, galvanized, class C 250 kN.

Grating for NW300: Ductile iron longitudinal grating, class E 600 kN.

Grating for NW300: Ductile iron slotted grating, class F 900 kN.

Grating for NW300: HEELPROOF Ductile iron grating KIARO, class D 400 kN.

Grating for NW300: HEELPROOF Ductile iron grating VIA, class D 400 kN.

Grating for NW300: HEELPROOF Ductile iron grating VILLE, class E 600 kN.

* + - 1. Product: BG-FILCOTEN pro E Heavy Duty with Integral (4 mm) Stainless Steel Rails.
         1. Certified: CE.
         2. Frost Thaw Salt Tested as per EN 1433.
         3. Load Class: A15kN to E600kN.

\*\* NOTE TO SPECIFIER \*\* Delete NW Series and weight per section options not required.

* + - * 1. NW150 Dimensions (WxL): 7.4 x 39.40 inches (188 x I,000 mm) long.

Drain Width: 6 inches (150 mm).

Overall Height: (210 to 310 mm).

Wall Thickness: 19 mm.

Weight per Section without Grating: 30.8 to 46.9 kg.

Bottom Outlet: None.

Bottom Outlet: 6 inch (150 mm) no hub outlet. Galvanized steel.

* + - * 1. NW200 Dimensions (WxL): 9.37 x 39.40 inches (238 x I,000 mm) long.

Drain Width: 8 inches (200 mm).

Overall Height: (265 to 365 mm).

Wall Thickness: (19 mm).

Weight per Section without Grating: 44. to 62.7 kg.

Bottom Outlet: None.

Bottom Outlet: 8 inch (200 mm) no hub outlet. Galvanized steel.

* + - * 1. NW300 Dimensions (WxL): 14.17 x 39.40 inches (360 x I,000 mm) long.

Drain Width: 12 inches (300 mm).

Overall Height: 360 to 460 mm.

Wall Thickness: 30 mm.

Weight per Section without Grating: 74.3 to 107.7 kg.

\*\* NOTE TO SPECIFIER \*\* Delete internal slope option not required.

* + - * 1. Internal Slope: None.
        2. Internal Slope: 0.5 percent.
        3. Body: Filcoten HPC. Fiber-reinforced concrete composite. Interlocking ends 100 Percent recyclable. Fiber Content: Minimum 0.4 percent by volume.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing & thawing according to ASTM C666.

Resistant to chloride ion penetration according to ASTM C 1202.

Material free of VOC, biocides, heavy metals.

\*\* NOTE TO SPECIFIER \*\* Delete edges and bottom outlet options not required.

* + - * 1. Edges: Stainless steel.
        2. Edges: Cast iron.
        3. Cross Bars: None in channel cross section.
        4. Sealant Joints: Male side of channel body.
        5. Surface Exterior: Rough for good adhesion to concrete casing.
        6. Surface Interior: Smooth for maximum discharge rate.
        7. Integrated Anchoring Ribs: For mechanical fixing in concrete casing.
        8. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories options not required.

Sump: Precast fiber-reinforced composite concrete with concreted galvanized steel edge matching channels.

Silt Bucket: Plastic.

Front and End Plates: Galvanized steel, with outlet.

Front and End Plates: Stainless steel, with outlet.

Front and End Plates: Galvanized steel, without outlet.

Front and End Plates: Stainless steel, without outlet.

\*\* NOTE TO SPECIFIER \*\* The following 3 items do not apply to NW300. Delete options not required.

Rebar Supports: Galvanized steel.

Step Connector Plates: Galvanized steel.

Anti-vandalism Locking Device: Stainless steel.

\*\* NOTE TO SPECIFIER \*\* The following 4 items are for NW300 only. Delete options not required.

End Caps for Catch Basins: Connection cut-outs, galvanized steel.

Catch basin extension unit.

Pipe Connectors: DN200 PVC.

Step Connector Plates: Galvanized steel.

\*\* NOTE TO SPECIFIER \*\* End caps and catch basins are optional. Delete options not required.

* + - * 1. End caps.
        2. Catch basins.
        3. Grates: Secured to body with four point self-locking system.

\*\* NOTE TO SPECIFIER \*\* Delete grating options not required.

Grating for NW100: Reinforced slotted grating, stainless steel, class A 15 kN.

Grating for NW100: Reinforced slotted grating, stainless steel, class C 250 kN.

Grating for NW100: ADA Mesh grating, stainless steel, class C 250 kN.

Grating for NW100: ADA HEELPROOF Perforated grating, stainless steel, class A 15 kN.

Grating for NW100: ADA HEELPROOF Perforated grating, stainless steel, class C 250 kN.

Grating for NW150: ADA Mesh grating, stainless steel, class C 250 kN.

Grating for NW150: ADA HEELPROOF Perforated, Stainless, class C 250 kN.

Grating for NW200: ADA Mesh grating, stainless steel, class C 250 kN.

Grating for NW200: ADA HEELPROOF Perforated grating, stainless steel, class C 250 kN.

* + - 1. Product: BG-FILCOTEN pro G Extra Heavy Duty with Integral Cast Iron Rails.
         1. Certified: CE.
         2. Frost Thaw Salt Tested as per EN 1433.
         3. Load Class: A15kN to E600kN.

\*\* NOTE TO SPECIFIER \*\* Delete NW Series, and bottom outlet options not required.

* + - * 1. NW100 Dimensions (WxL): 5.43 x 39.40 inches (138 x I,000 mm) long.

Drain Width: 4 inches (100 mm).

Overall Height: 8.27 to 12.20 inches (210 to 310 mm).

Wall Thickness: 19 mm.

Weight per Section without Grating: 42.11 to 68.78 lbs (19.1 to 31.2 kg).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

* + - * 1. NW150 Dimensions (WxL): 7.40 x 39.40 inches (188 x I,000 mm) long.

Drain Width: 6 inches (150 mm).

Overall Height: 8.27 to 12.20 inches (210 to 310 mm).

Wall Thickness: 19 mm.

Weight per Section without Grating: 69.67 to 105.38 lbs (31.6 to 47.8 kg).

Bottom Outlet: None.

Bottom Outlet: 6 inch (150 mm) no hub outlet. Galvanized steel.

* + - * 1. NW200 Dimensions (WxL): 9.37 x 39.40 inches (238 x I,000 mm) long.

Drain Width: 8 inches (200 mm).

Overall Height: 10.43 to 14.37 inches (265 to 365 mm).

Wall Thickness: 19 mm.

Weight per Section without Grating: 98.77 to 140.21 lbs (44.8 to 63.6 kg).

Bottom Outlet: None.

Bottom Outlet: 8 inch (200 mm) no hub outlet. Galvanized steel.

* + - * 1. NW300 Dimensions (WxL): 14.17 x 39.40 inches (360 x I,000 mm) long.

Drain Width: 12 inches (300 mm).

Overall Height: 14.47 to 16.14 inches (360 to 410 mm).

Wall Thickness: 30mm.

Weight per Section without Grating: 170.42 to 197.75 lbs (77.3 to 89.7 kg).

Bottom Outlet: None.

Bottom Outlet: 8 inch (200 mm) no hub outlet. Galvanized steel.

\*\* NOTE TO SPECIFIER \*\* Delete internal slope option not required.

* + - * 1. Internal Slope: None.
        2. Internal Slope: 0.5 percent.
        3. Body: Filcoten HPC. Fiber-reinforced concrete composite. Interlocking ends. 100 Percent recyclable. Fiber Content: Minimum 0.4 percent by volume.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing & thawing according to ASTM C666.

Resistant to chloride ion penetration according to ASTM C 1202.

Material free of VOC, biocides, heavy metals.

* + - * 1. Extra Heavy Duty Cast Iron Rail: Integral 0.20 inch (5 mm) thick.
        2. Surface Exterior: Rough for good adhesion to concrete casing.
        3. Surface Interior: Smooth for maximum discharge rate.
        4. Integrated Anchoring Ribs: For mechanical fixing in concrete casing.
        5. Grates: Secured to body with four point bolting system.

\*\* NOTE TO SPECIFIER \*\* Delete grating option not required.

Grating for NW100: Ductile iron longitudinal grating, class E 600 kN.

Grating for NW100: Ductile iron slotted grating, class F 900 kN.

Grating for NW150: Ductile iron longitudinal grating, class E 600 kN.

Grating for NW150: Ductile iron slotted grating, class F 900 kN.

Grating for NW200: Ductile iron longitudinal grating, class E 600 kN.

Grating for NW200: Ductile iron slotted grating, class F 900 kN.

Grating for NW300: ADA Mesh grating, galvanized, class C 250 kN.

Grating for NW300: HEELPROOF Ductile iron grating KIARO, class D 400 kN.

Grating for NW300: HEELPROOF Ductile iron grating VIA, class D 400 kN.

Grating for NW300: Ductile iron longitudinal grating, class E 600 kN.

Grating for NW300: HEELPROOF Ductile iron grating VILLE, class E 600 kN.

Grating for NW300: Ductile iron slotted grating, class F 900 kN.

\*\* NOTE TO SPECIFIER \*\* End caps and catch basins are optional. Delete options not required.

End caps.

Catch basins.

* + - 1. Product: BG-FILCOTEN one. Extra Heavy Duty Monolithic Trench Drains. Maintenance and outlet units with ductile iron grates.
         1. Load Classes: D400 to F900.

\*\* NOTE TO SPECIFIER \*\* Delete NW Series option not required.

* + - * 1. NW150 Dimensions (WxL): 8.27 x 39.40 inch (210 x 1000 mm).

Drain Width: 6 inches (150 mm).

Overall Height: 11.81 to 19.68 inches (300 to 500 mm) stepped fall drainage system.

Weight per Section without Grating: 167.55 to 235.89 lbs (76.6 to 107 kg).

End Caps: Available in DN 6 inch (150 mm) for pipe connections.

* + - * 1. NW200 Dimensions (WxL): 10.23 x 39.40 inch (260 x 1000 mm).

Drain Width: 8 inches (200 mm).

Overall Height: 13.19 to 21.03 inches (335 to 535 mm) stepped fall drainage system.

Weight per Section without Grating: 218.25 to 289.91 lbs (99.0 to 131.5 kg).

End Caps: Available in DN 8 inch (200 mm) for pipe connections.

* + - * 1. Body: High performance concrete. Interlocking ends. Equipped with tongue/groove/tenon system. A radiused extract for efficient liquid drainage.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing & thawing according to ASTM C666.

Resistant to chloride ion penetration according to ASTM C 1202.

Material free of VOC, biocides, heavy metals.

Multiple Anchoring Ribs: Securely hold body in concrete foundation.

* + - * 1. Grates are secured to body with a four point bolting.

\*\* NOTE TO SPECIFIER \*\* The remaining items are optional. Delete options not required.

* + - * 1. Front caps.
        2. Outlet units.
        3. Adapter caps for stepped fall.
        4. Sealing profile.
        5. Lifting-hook.
      1. Product: BG-FILCOTEN pro-V Mini Shallow Body with Integral Galvanized Steel Rails.

\*\* NOTE TO SPECIFIER \*\* Delete NW Series options, height and bottom outlet options not required.

* + - * 1. NW100, FCT pro-V (WxL): 5.43 x 39.40 inch (138 x 1000 mm).

Height: 2.36 inch (60 mm).

Height: 3.15 inch (80 mm).

Drain Width: 4 inches (100 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

Extra Heavy Duty Galvanized Steel Rails: Integral 0.16 inch (4 mm) thick.

* + - * 1. NW150, FCT pro-V (WxL): 7.40 x 39.40 inch (188 x 1000 mm).

Height: 4.72 inch (120 mm).

Drain Width: 6 inches (150 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 6 inch (150 mm) no hub outlet. Galvanized steel.

Extra Heavy Duty Galvanized Steel Rails: Integral 0.16 inch (4 mm) thick.

* + - * 1. NW200, FCT pro-V (WxL): 9.37 x 39.40 inch (238 x 1000 mm).

Height: 4.72 inch (120 mm).

Drain Width: 8 inches (200 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 6 inch (150 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 8 inch (200 mm) no hub outlet. Galvanized steel.

Extra Heavy Duty Galvanized Steel Rails: Integral 0.16 inch (4 mm) thick.

* + - * 1. NW300, FCT pro-V (WxLxH): 14.17 x 39.40 x 4.75 inch (360 x 1000 mm).

Height: 4.72 inch (120 mm).

Drain Width: 12 inches (300 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 6 inch (150 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 8 inch (200 mm) no hub outlet. Galvanized steel.

Extra Heavy Duty Galvanized Steel Rails: Integral 0.16 inch (4 mm) thick.

* + - * 1. Body: Filcoten HPC. Fiber-reinforced concrete composite. Interlocking ends. 100 Percent recyclable. Fiber Content: Minimum 0.4 percent by volume. Interlocking ends.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing & thawing according to ASTM C666.

Resistant to chloride ion penetration according to ASTM C 1202.

Material free of VOC, biocides, heavy metals.

Multiple Anchoring Ribs: Securely hold body in concrete foundation.

* + - * 1. Grates: Secure to body with a four point self-locking system.

\*\* NOTE TO SPECIFIER \*\* Delete grating options not required.

Grating: stainless steel. Load class A -E.

Grating: Galvanized steel. Load class A - E.

Grating: Ductile iron. Load class A -F.

\*\* NOTE TO SPECIFIER \*\* End caps are optional. Delete if not required.

* + - * 1. End caps.
      1. Product: BG-FILCOTEN pro-E Mini Shallow Body with Integral Stainless Steel Rails.

\*\* NOTE TO SPECIFIER \*\* Delete NW Series options and height and bottom outlet options not required.

* + - * 1. NW100 (WxL): 5.43 x 39.40 inch (138 x 1000 mm).

Height: 2.36 inch (60 mm).

Height: 3.15 inch (80 mm).

Drain Width: 4 inches (100 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

* + - * 1. NW150 (WxL): 7.40 x 39.40 inch (188 x 1000 mm).

Height: 4.72 inch (120 mm).

Drain Width: 6 inches (150 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 6 inch (150 mm) no hub outlet. Galvanized steel.

* + - * 1. NW200 (WxL): 9.37 x 39.40 inch (238 x 1000 mm).

Height: 4.72 inch (120 mm).

Drain Width: 8 inches (200 mm).

Bottom Outlet: None.

Bottom Outlet: 8 inch (200 mm) no hub outlet. Galvanized steel.

* + - * 1. Body: Filcoten HPC. Fiber-reinforced concrete composite. Interlocking ends. 100 Percent recyclable. Fiber Content: Minimum 0.4 percent by volume. Interlocking ends.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing & thawing according to ASTM C666.

Resistant to chloride ion penetration according to ASTM C 1202.

Material free of VOC, biocides, heavy metals.

* + - * 1. Extra Heavy Duty Stainless Steel Rails: Integral 0.16 inch (4 mm) thick.
        2. Multiple Anchoring Ribs: Securely hold body in concrete foundation.
        3. Grates: Secure to body with a four point self-locking system.

\*\* NOTE TO SPECIFIER \*\* Delete grating options not required.

* + - * 1. Grating: stainless steel. Load class A - E.
        2. Grating: Galvanized steel. Load class A - E.
        3. Grating: Ductile iron. Load class A - F.

\*\* NOTE TO SPECIFIER \*\* End caps are optional. Delete if not required.

* + - * 1. End caps.
      1. Product: BG-FILCOTEN pro-G Mini Shallow Body with Integral Cast Iron Rails.

\*\* NOTE TO SPECIFIER \*\* Delete NW Series options, and height and bottom outlet options not required.

* + - * 1. NW100 (WxLxH): 5.43 x 39.40 x 3.15 inch (138 x 1000 mm).

Height: 3.15 inch (80 mm).

Drain Width: 4 inches (100 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

Extra Heavy Duty Cast Iron Rails: Integral 0.20 inch (5 mm) thick.

* + - * 1. NW150 (WxL): 7.40 x 39.40 inch (188 x 1000 mm).

Height: 4.72 inch (120 mm).

Drain Width: 6 inches (150 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 6 inch (150 mm) no hub outlet. Galvanized steel.

Extra Heavy Duty Cast Iron Rails: Integral 0.16 inch (4 mm) thick.

* + - * 1. NW200 (WxL): 9.37 x 39.40 inch (238 x 1000 mm).

Height: 4.72 inch (120 mm).

Drain Width: 8 inches (200 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 6 inch (150 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 8 inch (200 mm) no hub outlet. Galvanized steel.

Extra Heavy Duty Cast Iron Rails: Integral 0.20 inch (5 mm) thick.

* + - * 1. NW300, FCT pro-G (WxLxH): 14.17 x 39.40 x 4.75 inch (360 x 1000 mm).

Height: 4.72 inch (120 mm).

Drain Width: 12 inches (300 mm).

Bottom Outlet: None.

Bottom Outlet: 4 inch (100 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 6 inch (150 mm) no hub outlet. Galvanized steel.

Bottom Outlet: 8 inch (200 mm) no hub outlet. Galvanized steel.

Extra Heavy Duty Cast Iron Rails: Integral 0.20 inch (5 mm) thick.

* + - * 1. Body: Filcoten HPC. Fiber-reinforced concrete composite. Interlocking ends. 100 Percent recyclable. Fiber Content: Minimum 0.4 percent by volume. Interlocking ends.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing & thawing according to ASTM C666.

Resistant to chloride ion penetration according to ASTM C 1202.

Material free of VOC, biocides, heavy metals.

Multiple Anchoring Ribs: Securely hold body in concrete foundation.

* + - * 1. Grates: Secure to body with a four point self-locking system.

\*\* NOTE TO SPECIFIER \*\* Delete grating options not required.

* + - * 1. Grating: Heavy duty stainless steel. Load class A - F.
        2. Grating: Galvanized steel. Load class A - F.
        3. Grating: Ductile iron. Load class A - F.

\*\* NOTE TO SPECIFIER \*\* End caps are optional. Delete if not required.

* + - * 1. End caps.
      1. Product: BG-FILCOTEN parkline (car parks)

\*\* NOTE TO SPECIFIER \*\* Delete NW Series option not required.

* + - * 1. NW150 FCT H35 (WxLxH): 6.00 x 39.40 x 1.37 inch (150 x 1000 x 35 mm).

Light, medium duty and heavy duty applications. Load class A - C.

ADA compliant.

* + - * 1. NW300 FCT H50 (WxLxH): 12.00 x 39.40 x 1.97 inch (300 x 1000 x 50 mm).

Light, medium duty and heavy duty applications. Load class A - C.

* + - * 1. Body: Filcoten HPC. High performance concrete based material. Interlocking ends. Longitudinal slots for liquid drainage.

Compressive strength according to ASTM C39: 11700 psi (80668.7 kPa).

Flexural strength: 1700 psi (11721 kPa).

Free of release agents.

Water absorption sufficient for adhesion with concrete surfaces.

Nonflammable.

UC resistant.

Recyclable: 100 percent.

Dilute acid and alkali resistant.

Frost thaw salt tested as per EN 1433 with a test temperature up to minus 40 degrees F(minus 40 degrees F).

Resistant to rapid freezing & thawing according to ASTM C666.

Resistant to chloride ion penetration according to ASTM C 1202.

Material free of VOC, biocides, heavy metals.

Multiple side fixing pockets securely hold body in the concrete foundation.

* + - * 1. Bottom Outlet Connections: 4 inch (I00 mm) No Hub.
        2. Cross/corner element allows for a wide variety of connection combinations for channel runs.
        3. Drain Cover: Stainless steel. Easily removable for cleaning.

\*\* NOTE TO SPECIFIER \*\* End caps are optional. Delete if not required.

* + - * 1. End caps.
        2. Installation chairs.
        3. Pour protection plates.
      1. Product: BG-FILCOTEN pave slot top 2S system, HEELPROOF.
         1. Load Class C 56,200 lbs per ft (250 kN).
         2. ADA compliant.
         3. Certified to EN 1433 for commercial applications.

\*\* NOTE TO SPECIFIER \*\* Delete NW-Series options not required.

* + - * 1. NW100 Maintenance Unit.

Dimensions (WxLxH): 4.84 x 19.70 x 5.25 inches (123 x 500 x 133 mm).

Weight: 11.02 lbs (5.0 kg).

Slot Width: 2 x 0.24 inches (2 x 6 mm).

Suitable to use with nominal width 4 inch (100 mm) NW100 trench drains.

Material: Galvanized steel and Stainless Steel and tested according to EN1433 - CE certified.

Recommended minimum 2 maintenance units for a run, and 2 pieces of lifting knobs.

* + - * 1. NW100 FCT Pave Slot Top 2S for NWI00 trench drains. Heavy duty.

Dimensions (WxLxH): 4.84 x 39.40 x 5.24 inches (123 x 1000 x 133 mm).

Weight: 11.9 lbs (5.4 kg).

Slot Width: 2 x 0.24 inches (2 x 6 mm).

Suitable to use with nominal width 4 inch (100 mm) NW100 trench drains.

Material: Galvanized steel and Stainless Steel and tested according to EN1433 - CE certified.

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

* 1. SLOT DRAINS
     1. Basis or Design: BG-Gatic as manufactured by BG Graspointner.

\*\* NOTE TO SPECIFIER \*\* Delete product options and channel width options not required.

* + - 1. Product: BG-GATIC CastSlot. High capacity surface water drainage as manufactured by BG Graspointner.
         1. Subtle profile sits neatly within concrete, asphalt, and block surface finishes. Electro painted ductile iron throat section, securely fixed to galvanized steel channel body. An exceptionally robust yet discreet drainage system.
         2. Load Classification: A15 to F900.
         3. Slot Width: 1.18 inches (30 mm). Tapered.

\*\* NOTE TO SPECIFIER \*\* Treadsafe is optional. Delete if not required.

Treadsafe: Reduces slot width to 2 x 0.4 inches (2 x 10 mm) wide slots. No effect on intake capacity but makes channel safe for pedestrian traffic.

* + - * 1. Drainage Channel: Hexagonal. V-shaped channel base.
        2. End plates.
        3. Channel Width: 4 inches (100 mm).
        4. Channel Width: 6 inches (150 mm).
        5. Channel Width: 9 inches (225 mm).
        6. Channel Width: 12 inches (300 mm).
        7. Channel Width: 14 inches (350 mm).
        8. Channel Width: 16 inches (400 mm).
        9. Channel Width: 20 inches (500 mm).
        10. Channel Width: 24 inches (600 mm).
      1. Product: BG-GATIC UltraSlot High capacity surface water drainage. Channel top edge has an outward fold to prevent damage. Channel features concrete anchors, stabilizing bars, and channel feet ensuring a physical connection to steel reinforcement and channel is tied into concrete encasement/surround creating a strong, solid and durable structure. Electro painted ductile iron throat section, affixed to galvanized steel channel body.
         1. Load Classification: A15 to F900.
         2. Slot Width: 1.18 inches (30 mm).

\*\* NOTE TO SPECIFIER \*\* treadsafe is optional. Delete if not required.

Treadsafe: Reduces slot width to 0.08 x 0.35 inches (2 x 9 mm) wide slots. No effect on intake capacity but makes channel safe for pedestrian traffic.

* + - * 1. Drainage Channel: Hexagonal. V-shaped channel base.
        2. End plates.
        3. Channel Width: 4 inches (100 mm).
        4. Channel Width: 6 inches (150 mm).
        5. Channel Width: 9 inches (225 mm).
        6. Channel Width: 12 inches (300 mm).
        7. Channel Width: 14 inches (350 mm).
        8. Channel Width: 16 inches (400 mm).
        9. Channel Width: 20 inches (500 mm).
        10. Channel Width: 24 inches (600 mm).
      1. Product: BG-GATIC PaveSlot. High capacity surface water drainage. For paved public and commercial areas, subject to delivery and service vehicle traffic. Used with paving units laid against top edge of channel. Throat spacer perforations allow water that settles under paving units beside the channel to percolate and move into channel. Electro painted ductile iron throat section, securely fixed to galvanized steel channel body.
         1. Load Classification: A15 to D400.
         2. Slot Width: 0.39 inches (10 mm).

\*\* NOTE TO SPECIFIER \*\* treadsafe is optional. Delete if not required.

* + - * 1. Drainage Channel: Hexagonal. V-shaped channel base.
        2. End plates.
        3. Channel Width: 4 inches (100 mm).
        4. Channel Width: 6 inches (150 mm).
        5. Channel Width: 9 inches (225 mm).
        6. Channel Width: 12 inches (300 mm).
        7. Channel Width: 14 inches (350 mm).
        8. Channel Width: 16 inches (400 mm).
        9. Channel Width: 20 inches (500 mm).
        10. Channel Width: 24 inches (600 mm).
      1. Product: BG-GATIC FacadeSlot. A discreet surface drainage channel installed against a building, wall or external landscape feature, providing effective drainage from vertical surfaces, door thresholds and adjacent pavement areas. Channels can be made to follow the building perimeter whether straight or curved. The system can accommodate rainwater downpipes which, when positioned over a simple rainwater inlet box, can eliminate the need for a separate drainage network for the roof area, achieving a more efficient drainage system. Electro painted ductile iron throat section, securely fixed to galvanized steel channel body.
         1. Load Classification: A15 to D400.
         2. Slot Width: 0.39 inches (10 mm).
         3. Channel Width: 2 inches (50 mm).
         4. Channel Width: 3 inches (75 mm).
         5. Channel Width: 4.5 inches (115 mm).
      2. Product: BG-GATIC Access Covers.
      3. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories options not required.

* + - * 1. Access Box with Treadsafe Double Triangular Grating and locking bolts.
        2. Access box with galvanized recessed cover and locking bolts.
        3. Outlet box with Treadsafe Double Triangular Grating and locking bolts.
        4. Outlet box with galvanized recessed cover and locking bolts.
        5. Silt box with Treadsafe Double Triangular Grating and locking bolts.
        6. Silt box with galvanized recessed cover and locking bolts.
        7. Flow regulators.
        8. Catchpit connectors.
        9. Channel pipes.
        10. Drop converter.
        11. Universal end caps.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required. High load rated, used mostly for parking areas, landscaping, rest areas, and access routes.

* 1. PERMEABLE PAVERS
     1. Product: citygrid, Heavy Duty Permeable Ground Grids as manufactured by BG Granpointner.
        1. CE Certified.
        2. Tested according to EN1433.
        3. Product Features:
           1. Connection System: Tongue and groove.
           2. Material: 100 percent recycled polyolefins.
           3. Nominal Size (LxWxH): 24 x 15.75 x 3.15 inch (600 x 400 x 80 mm).
           4. Unit weight: 19.8 lbs (9 kg). 82.67 lbs per sq yd (37.5 kg per sq m) panel.
           5. Coverage Ratio: 0.39 grids per sq ft (4.17 grids per sq m).

Grid: Equals 2.58 sq ft (0.24 sq m).

* + - * 1. Color: Grey.
        2. Connection Type: Tongue and groove.
        3. Infiltration Rate: 98.43 inches (2,500 mm) per hour for gravel.

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. Excavate trenches to ensure proper thickness of concrete beneath and on both sides of channels are maintained and are in accordance with specified load rating.
      3. Install drainage channel system to elevations and slopes indicated on the Drawings.
      4. Ensure directional flow arrows located on channels are pointing in direction of flow, toward catch basins and evacuation outlets.
      5. Install catch basins at elevations indicated on the Drawings.
      6. Apply silicon sealant to make joints watertight.
      7. Install temporary blank grate inserts to keep concrete, sediment, and debris out of channel drains during installation of drainage channel system.
      8. Concrete:
         1. Place concrete beneath and on both sides of drainage channel system in accordance with specified load rating and as indicated on the Drawings.
         2. Minimum Concrete Compressive Strength: 4,000 psi at 28 days.
         3. Concrete: Specified in Section 03 30 00.
      9. Recess Top of Drainage Channel System:
         1. Pedestrian Applications: 1/8 inch below concrete finish grade.
         2. Traffic-Bearing Applications: 1/4 inch below concrete finish grade.
      10. Allow concrete to cure to specified compressive strength.
      11. Ensure sediment and debris does not collect in drainage channel system.
      12. Install channel grates in accordance with manufacturer's instructions to meet load rating.
   4. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.
         1. Remove and replace with new material, damaged components that cannot be successfully repaired, as determined by Architect.

\*\* 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 drainage channel system of accumulated sediment and debris before final project completion.
     2. Protect Work of this Section to ensure that, except for normal weathering, Work will be without damage or deterioration at time of Substantial Completion.

END OF SECTION