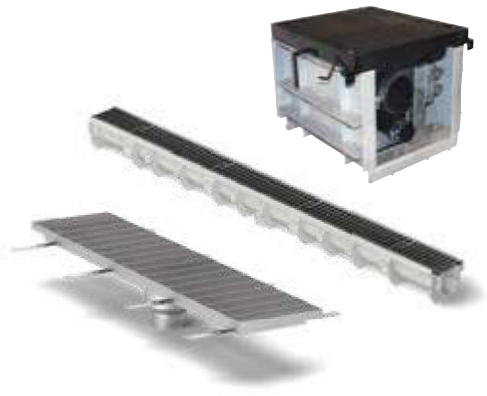
Trench Drain Systems

Systems That Cover the Spectrum and Your Demands



ZURN

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PERMA-TRENCH® HDPE TRENCH DRAINS

Z886 Perma-Trench®

HPDE 6" Drain System (4" Throat)

Z886 Applications

- Highways
- Driveways
- Kitchens
- Pools
- Parking Lots
- Gas Stations
- Airports
- Airplane Hangars
- Industrial Parks
- Chemical Plants
- Food Processing
- Shopping Malls
- Industrial Plants
- Pharmaceuticals
- Amusement Parks

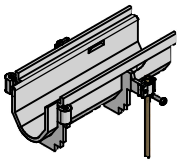
Features and Benefits

- 80" Pre-engineered Modular Channel Sections with 20" or 40" Grates
- .75% Built-In Slope – Handles greater flows, uniform slope
- Radiused Bottom – Better flow rate, less solids build-up
- Smooth High Density Polyethylene Structural Composite Interior – 0% water absorption
- Durable and Lightweight – Strong corrosion-resistant material
- Extra Long Runs – Sidewall extensions allow pre-slope runs up to 300 feet
- Variety of Gratings – Multiple finishes and designs available
- Grate Options – From heel-proof to FAA rated; ADA compliant. See pages 36-37.
- Built-In Rebar Clips – Accommodates #3 or #4 rebar (supplied by others)
- Frame available in coated steel, stainless steel, or galvanized steel

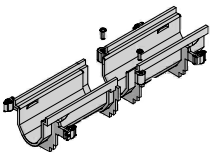
Engineering Specification

Channels shall be 80" long, 6-1/4" wide, and have a 4" wide throat. Modular channel sections shall be made of High Density Polyethylene (HDPE), have mechanical interlocking ends, and radiused bottom. Channel shall be provided either flat (neutral) or with a .75% built-in slope. Channels shall be available with inverts ranging from 3.5" to 12.50" (sidewall extensions optional; must be installed at factory). Channels shall have clips molded into the sides of the channel to accommodate vertical rebar for positioning and anchoring purposes. Choice of class A, B, C, D, E, and F grates shall be available with H-20 and/or FAA load ratings and/or ADA compliance with mechanical lockdown devices (refer to pages 24 and 25). End caps and catch basins shall be available to complement the channels and grates. End outlets, bottom outlets, and side outlets shall be available in 2", 3", 4", and 6" diameters. Trench drain shall be Flo-Thru model Z886. For downloadable CSI format specification, visit www.zurn.com.

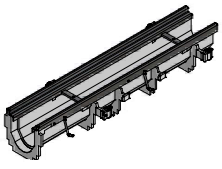
System Highlights



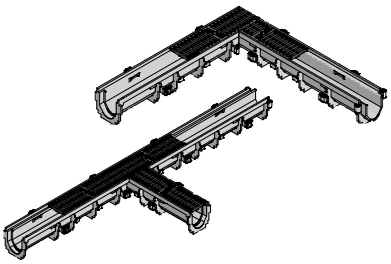
Integral Rebar Clips



Mechanical Interlocking Connection



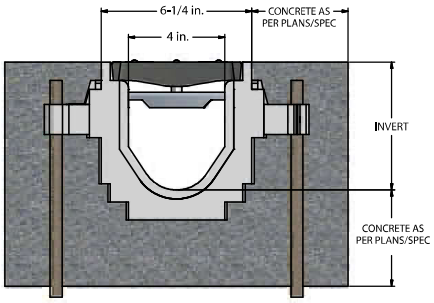
Optional -HD Frame Assembly



Tee and 90° Fabrication

Sidewall

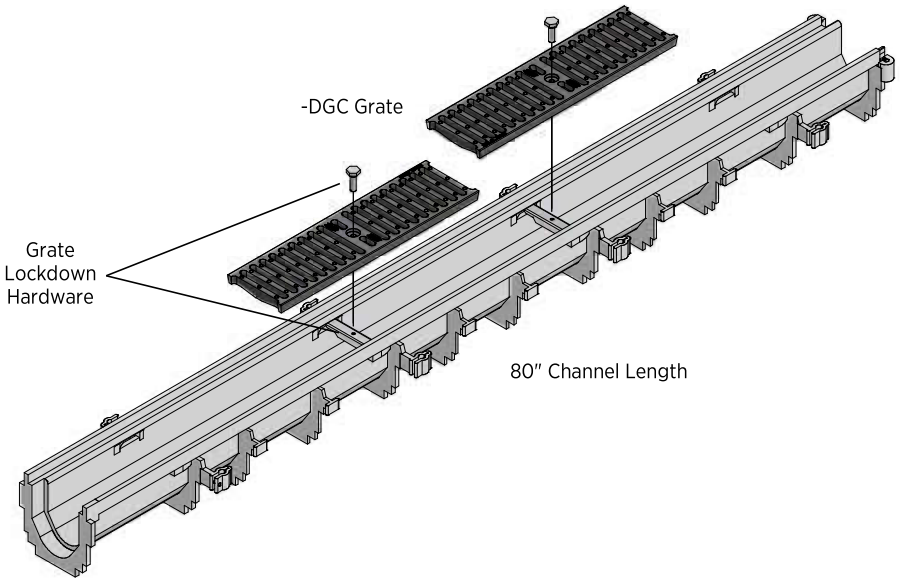
Installation Specification



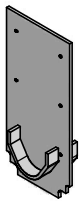
4" Throat / 6-1/4" Overall Width

Consult Plans and Specifications

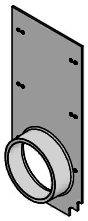
TRENCH NUMBER	DIMENSIONS IN INCHES [MM]		MAX. FLOW RATE			APPROX. WEIGHT LESS GRATE (LB [KG])
	SHALLOW INVERT	DEEP INVERT	GPM	LPS	CFS	
8601	3.50 [89]	4.10 [104]	93	6	0.207	14 [6.2]
8602	4.10 [104]	4.70 [119]	122	8	0.272	15 [6.8]
8603	4.70 [119]	5.30 [135]	152	10	0.339	16 [7.4]
8603N	5.30 [135]	5.30 [135]	–	–	–	17 [7.7]
8604	5.30 [135]	5.90 [150]	183	12	0.408	18 [8.3]
8605	5.90 [150]	6.50 [165]	214	14	0.477	20 [8.9]
8606	6.50 [165]	7.10 [180]	245	16	0.546	21 [9.5]
8606N	7.10 [180]	7.10 [180]	–	–	–	22 [10]
8607	7.10 [180]	7.70 [196]	276	17	0.615	23 [10.6]
8608	7.70 [196]	8.30 [211]	308	19	0.686	25 [11.2]
8609	8.30 [211]	8.90 [226]	339	21	0.755	26 [11.8]
8610	8.90 [226]	9.50 [241]	371	23	0.827	27 [12.4]
8611	9.50 [241]	10.1 [257]	403	26	0.898	29 [13]
8612	10.10 [257]	10.7 [272]	435	28	0.969	30 [13.6]
8612N	10.70 [272]	10.7 [272]	–	–	–	30 [13.6]
8613	10.70 [272]	11.3 [287]	467	30	1.041	31 [14.2]
8614	11.30 [287]	11.9 [302]	498	32	1.11	33 [14.8]
8615	11.90 [302]	12.5 [318]	530	34	1.181	34 [15.4]



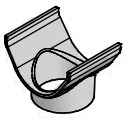
Closed End Cap (E1)



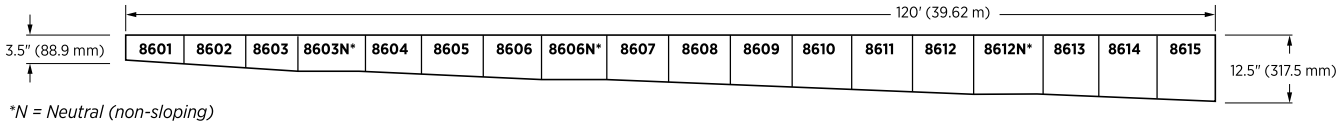
End Outlet (2", 3", 4", 6" NH)



Bottom Outlet (2", 3", 4", 6" NH)



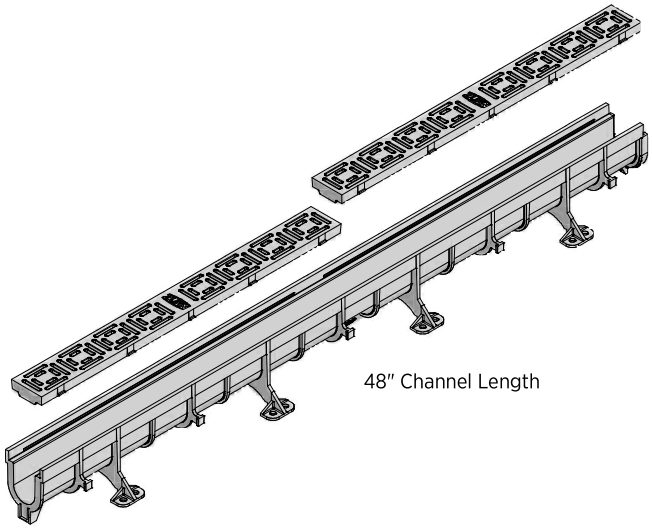
Z886 System Profile



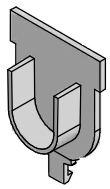
**N = Neutral (non-sloping)*

Z880 Perma-Trench®

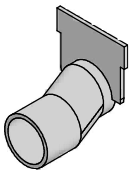
HDPE 2-1/2" Wide Drain System (1.75" Throat)



48" Channel Length



Closed End Cap
(E1)



End Outlet
(1-1/2" NH)

Bottom Outlet
(1-1/2" NH)

Z880 Applications

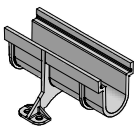
- Pools
- Residential
- Hardscapes

Engineering Specification

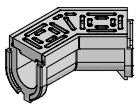
2-1/2" Wide Trench Drain System shall be 48" long and 2-1/2" wide. Drain shall be 3" deep. Drain shall be made of High Density Polyethylene (HDPE) and be UV-10 stabilized. Drain shall have bedding feet and/or bedding feet shall be used for positioning and anchoring purposes. Drain shall have tongue and groove snap fit connection. End outlets and bottom outlets shall be available in 1-1/2" diameter. Drain shall be Flo-Thru model Z880. 24" long High Density Polyethylene decorative grate (-POG) provided as standard. For downloadable CSI format specification, visit www.zurn.com.

System Highlights

90° Connector
Channel with Grate



Bedding Feet



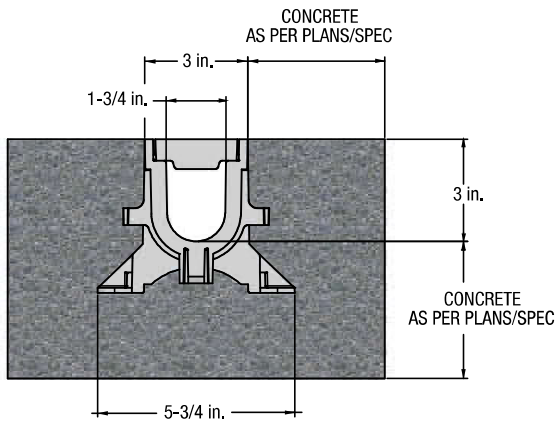
45° Connector Channel
with Grate

Features and Benefits

- 48" Pre-engineered Modular Channel Sections with 24" Grates
- Durable and Lightweight
- 3" Trench Depth
- Prefabricated 45's and 90's
- Five Standard Colors – Gray, Brick Red, Blue, Sand, and White

- Grate Options – Heel-Proof Polyethylene Grate (-POG), Bronze Decorative Grate (-BZ), Aluminum Wire Grate (-AWG), Stainless Steel Wire Grate (SWG), and Stainless Steel Decorative Grate (SOG)

Installation Specification



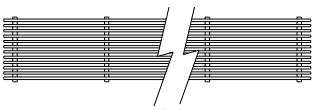
Consult Plans and Specifications

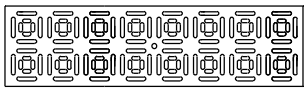
TRENCH NUMBER	DIMENSIONS IN INCHES [MM]		APPROX. WEIGHT LESS GRATE (LB [KG])
	C OVERALL DEPTH MIN.	D OVERALL DEPTH MAX.	
Z880	3 [76.2]	3 [76.2]	4 [1.8]

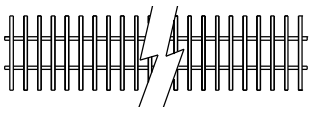
Technical Information

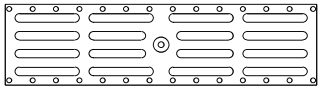
6" SYSTEM GRATES											
SUFFIX	DESCRIPTION	MATERIAL	OVERALL DIMENSIONS				DIN	ANSI	ADA	H-20	FAA
			WEIGHT (LB/FT.)	LENGTH	OPEN AREA (SQ. IN. PER FT.)	SLOT WIDTH/ HOLE SIZE					
-AWG	Aluminum Wire Grate	Aluminum	0.7	40"	37.5	0.250	A	Light Duty	Yes	No	No
-BCD	Circular Decorative	Bronze	7.8	20"	17.6	0.250	A	Light Duty	No	No	No
-BDD	Diagonal Decorative	Bronze	6.9	20"	17.9	0.250	A	Light Duty	Yes	No	No
-BZ	Bronze Decorative	Bronze	6.2	20"	16.9	0.250	A	Light Duty	No	No	No
-DDD	Diagonal Decorative	Ductile Iron	5.5	20"	17.9	0.250	A	Light Duty	Yes	No	No
-DWV	Decorative Wave Grate	Ductile Iron	4.2	20"	36.9	0.900	A	Light Duty	No	No	No
-FG	Fabricated Slotted	Galvanized Steel	1.7	40"	12	0.375	A	Light Duty	No	No	No
-FS	Fabricated Slotted	Stainless Steel	1.7	40"	12	0.375	A	Light Duty	No	No	No
-GG	Slotted Grate	Fiberglass	0.98	40"	41.6	0.750	A	Light Duty	No	No	No
-HPB	Heel-Proof Slotted	Bronze	7.8	20"	17	0.250	A	Light Duty	Yes	No	No
-HPP	Heel-Proof Slotted	HDPE	0.9	20"	14.5	0.250	A	Light Duty	Yes	No	No
-HPS	Heel-Proof Slotted	Stainless Steel	7.1	20"	17	0.250	A	Light Duty	Yes	No	No
-NBZ-USA	Domestic Decorative	Nickel Bronze	5.7	20"	16.9	0.250	A	Light Duty	Yes	No	No
-PG	Fabricated Perforated	Galvanized Steel	1.6	40"	5.3	.250 Dia.	A	Light Duty	Yes	No	No
-PGR	Raised Perforated	Galvanized Steel	1.8	40"	5.3	.250 Dia.	A	Light Duty	Yes	No	No
-PS	Fabricated Perforated	Stainless Steel	1.8	40"	5.3	.250 Dia.	A	Light Duty	Yes	No	No
-PSR	Raised Perforated	Stainless Steel	1.9	40"	5.3	.250 Dia.	A	Light Duty	Yes	No	No
-SC	Solid Cover	Stainless Steel	1.6	40"	N/A	N/A	A	Light Duty	Yes	No	No
-SWG	Stainless Steel Wire Grate	Stainless Steel	2.5	40"	37.5	0.250	A	Light Duty	Yes	Yes	No
-DOG	Decorative	Ductile Iron	4.9	20"	16.9	0.250	B	Medium Duty	No	No	No
-GHPD	Heel-Proof Slotted	Galvanized Ductile Iron	6.3	20"	17	0.250	B	Medium Duty	Yes	No	No
-GMG	Mesh Screen	Galvanized Steel	3.8	40"	47	1.125	B	Medium Duty	No	No	No
-HPD	Heel-Proof Longitudinal	Ductile Iron	6.3	20"	17	0.250	B	Medium Duty	Yes	No	No
-LD	Longitudinal Slotted	Ductile Iron	6.48	20"	20.94	0.563	B	Medium Duty	No	No	No
-PVS	Paver Slot Grate	Fabricated Steel	4.6	40"	6	0.500	B	Medium Duty	Yes	No	No
-PVSG	Paver Slot Grate	Fabricated Galvanized Steel	4.6	40"	6	0.500	B	Medium Duty	Yes	No	No
-PVSS	Paver Slot Grate	Fabricated Stainless Steel	4.7	40"	6	0.500	B	Medium Duty	Yes	No	No
-SCD	Circular Decorative	Stainless Steel	7.2	20"	17.6	0.250	B	Medium Duty	No	No	No
-SDD	Diagonal Decorative	Stainless Steel	6.3	20"	17.9	0.250	B	Medium Duty	Yes	No	No

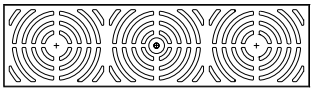
All gratings for the 6" systems have a width of 5.375" and a height of 3/4".

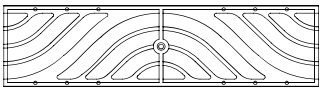

AWG/SWG


BZ/DOG/NBZ/SOG


GG


LD


BCD/DCD/SCD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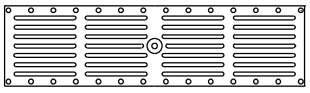
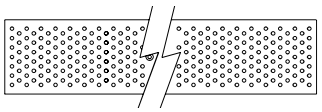
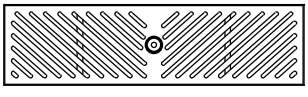
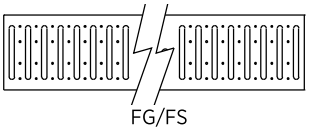
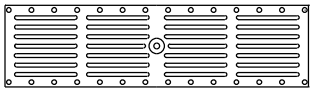

HPB/HPD/HPS


PG/PS


BDD/DDD/SDD


FG/FS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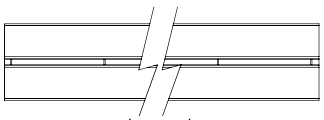
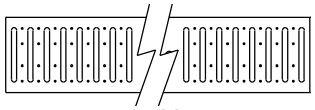

PVS/PVSG/PVSS

For downloadable CSI format specification, visit www.zurn.com.

Indicates 40" Grate Length

6" SYSTEM GRATES											
SUFFIX	DESCRIPTION	MATERIAL	OVERALL DIMENSIONS				DIN	ANSI	ADA	H-20	FAA
			WEIGHT (LB/FT.)	LENGTH	OPEN AREA (SQ. IN. PER FT.)	SLOT WIDTH/ HOLE SIZE					
-SMG	Mesh Screen	Stainless Steel	3.9	40"	47	1.125	B	Medium Duty	No	No	No
-SOG	Decorative	Stainless Steel	5.6	20"	16.9	0.250	B	Medium Duty	No	No	No
-BDC	Black Acid Resistant Ductile	Ductile Iron	4.5	20"	28.2	0.500	C	Heavy Duty	No	Yes	No
-BG	Slotted Bar Grate	Galvanized Ductile Iron	5.7	20"	23.9	0.360	C	Heavy Duty	No	Yes	No
-DBG	Slotted Bar Grate	Ductile Iron	5.7	20"	23.9	0.360	C	Heavy Duty	No	Yes	No
-DC	Solid Cover	Ductile Iron	8	20"	N/A	N/A	C	Heavy Duty	Yes	Yes	No
-DCD	Circular Decorative	Ductile Iron	6.3	20"	17.6	0.250	C	Heavy Duty	No	No	No
-DGC	Slotted Grate	Ductile Iron	4.5	20"	28.2	0.500	C	Heavy Duty	No	Yes	No
-DGC-USA	Domestic Slotted Grate	Ductile Iron	4.5	20"	28.2	0.500	C	Heavy Duty	No	Yes	No
-DTW	Decorative Tidal Wave	Ductile Iron	8.1	20"	21	0.406	C	Heavy Duty	Yes	Yes	No
-GDC	Slotted Grate	Galvanized Ductile Iron	4.5	20"	28.1	0.500	C	Heavy Duty	No	Yes	No
-GDC-USA	Domestic Slotted Grate	Galvanized Ductile Iron	4.5	20"	28.1	0.500	C	Heavy Duty	No	Yes	No
-HDD	Fixed Grate	Ductile Iron	7.7	20"	38.8	1.75	C	Heavy Duty	No	Yes	No
-HR	Removable Grate	Ductile Iron	12.3	20"	32.8	1.625	C	Heavy Duty	No	Yes	No
-PPC	Perforated Grate	Vinylester	3.3	20"	6.6	0.300	C	Heavy Duty	Yes	No	No
-RFGC	Reinforced Slotted	Galvanized Steel	4.8	40"	12	0.375	C	Heavy Duty	Yes	Yes	No
-RFSC	Reinforced Slotted	Stainless Steel	5.2	40"	12	0.375	C	Heavy Duty	Yes	Yes	No
-RPGC	Reinforced Perforated	Galvanized Steel	4.7	40"	8.3	.250 Dia.	C	Heavy Duty	Yes	Yes	No
-RPGRC	Reinforced Perforated	Galvanized Steel	4.7	40"	8.3	.313 Dia.	C	Heavy Duty	Yes	Yes	No
-RPSC	Reinforced Perforated	Stainless Steel	5.1	40"	8.3	.313 Dia.	C	Heavy Duty	Yes	Yes	No
-RPSRC	Reinforced Perforated Reverse Punch	Stainless Steel	5.1	40"	8.3	.313 Dia.	C	Heavy Duty	Yes	Yes	No
-BDE	Black Acid Resistant Ductile	Ductile Iron	6.4	20"	28.2	0.5	E	Special Duty	No	Yes	Yes
-BDE-USA	Domestic Black Acid Resistant Ductile	Ductile Iron	6.4	20"	28.2	0.5	E	Special Duty	No	Yes	Yes
-DCE-USA	Domestic Solid Cover	Ductile Iron	8	20"	N/A	N/A	E	Special Duty	Yes	Yes	Yes
-DGE	Slotted Grate	Ductile Iron	6.4	20"	28.2	0.500	E	Special Duty	No	Yes	Yes
-DGE-USA	Domestic Slotted Grate	Ductile Iron	6.4	20"	28.2	0.500	E	Special Duty	No	Yes	Yes
-GDE	Slotted Grate	Galvanized Ductile Iron	6.4	20"	28.2	0.500	E	Special Duty	No	Yes	Yes
-GDE-USA	Domestic Slotted Grate	Galvanized Ductile Iron	6.4	20"	28.2	0.500	E	Special Duty	No	Yes	Yes
-GHPDE	Heel-Proof Slotted	Galvanized Ductile Iron	9.5	20"	10.9	0.313	E	Special Duty	Yes	Yes	Yes
-GHPDE-USA	Domestic Heel-Proof Slotted	Galvanized Ductile Iron	9.5	20"	10.9	0.313	E	Special Duty	Yes	Yes	Yes
-HPDE	Heel-Proof Slotted	Ductile Iron	9.5	20"	10.9	0.313	E	Special Duty	Yes	Yes	Yes
-HPDE-USA	Domestic Heel-Proof Slotted	Ductile Iron	9.5	20"	10.9	0.313	E	Special Duty	Yes	Yes	Yes
-PDE-USA	Domestic Decorative	Ductile Iron	7.4	20"	9.13	0.453	E	Special Duty	Yes	Yes	Yes
-SBG	Slotted Bar Grate	Stainless Steel	9.4	20"	27.7	0.500	E	Special Duty	No	Yes	Yes
-FGF	Ductile Frame & Grate	Ductile Iron	18.7	20"	20.5	0.370	F	Special Duty	No	Yes	Yes
-FGF-USA	Domestic Ductile Frame & Grate	Ductile Iron	18.7	20"	20.5	0.370	F	Special Duty	No	Yes	Yes
-GFG	Galvanized Frame & Grate	Galvanized Ductile Iron	18.7	20"	20.5	0.370	F	Special Duty	No	No	Yes
-GFG-USA	Domestic Galvanized Frame & Grate	Galvanized Ductile Iron	18.7	20"	20.5	0.370	F	Special Duty	No	No	Yes

All gratings for the 6" systems have a width of 5.375" and a height of 3/4".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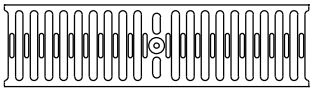
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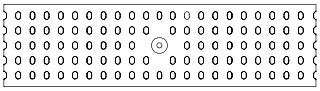
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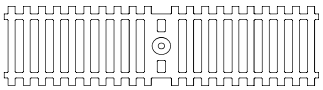
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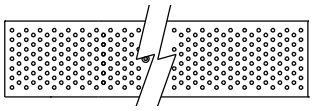
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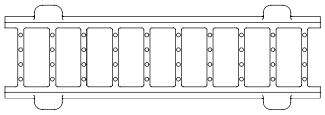
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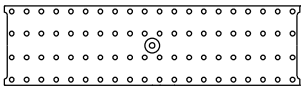
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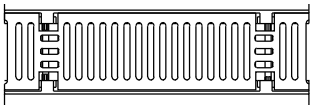
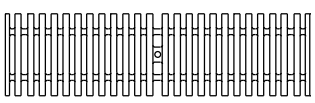

FGF/GFG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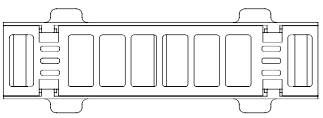
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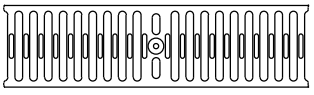
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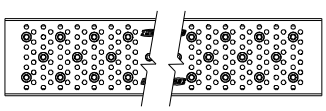
RPGRC

For downloadable CSI format specification, visit www.zurn.com.

Indicates 40" Grate Length

Material Definitions and Grate Loading Classifications

Definition of Terms

ACID-RESISTING EPOXY COATING (A.R.C.) is a baked-on powder coating which produces a smooth, hard, high-gloss finish. This epoxy-based coating offers high impact resistance and excellent life expectancy in all drainage applications.

GALVANIZING STEEL is a process of applying a coating of zinc to the finished sheet or fabricated parts to provide corrosion resistant properties. The coating is applied by hot dipping or electrolytic deposition.

POLYESTER is a thermosetting resin utilized to bond the individual fibers during the manufacture of molded fiberglass components. It provides high durability and excellent chemical-and weather-resistant properties.

POLYETHYLENE, HIGH DENSITY (HDPE) is a thermoplastic resin that offers excellent physical characteristics such as light weight, outstanding chemical resistance to household and industrial chemicals, good toughness, and 0% water absorption.

POLYPROPYLENE (PP) is a thermoplastic that offers excellent physical characteristics such as light weight, outstanding chemical and impact resistance, and 0% water absorption.

STAINLESS STEEL is any steel containing four or more percent chromium content. Chromium, along with other alloying elements like nickel and silicon, provides corrosion and heat resistant characteristics. Type 304 stainless steel is typical with 316 available as an option.

STAINLESS STEEL HARDWARE is used to secure steel angle frame to fiberglass trench for all Zurn Trench Systems.

VINYLESTER is a thermosetting resin utilized in the manufacture of molded fiberglass components. Its superior corrosion resistance in acidic and alkaline services, along with excellent impact and flexural fatigue resistance, make it ideal for hazardous chemical applications.

ZURN CAST IRON conforms to ASTM Specification for Gray Iron Castings A 48-83, Class 25. It is produced utilizing the latest equipment and newest developed foundry techniques. Zurn cast iron castings are characterized by a high degree of strength, corrosion resistance, workmanship, and finish.

ZURN DURA COAT is a specially formulated paint designed to resist cracking and chipping. Dura Coat is a latex-based coating developed to be used with cast iron substrates.

ZURN DURESIST is a ductile iron complying with ASTM Specification A 536-84, Grade 85-65-10. Its physical properties make it ideal for grates and drain components that are subjected to severe and heavy-duty service. Its chemical characteristics make possible a degree of corrosion resistance far superior to that of cast iron.

LLDPE (linear low density polyethylene) exhibits the following properties: excellent chemical resistance, low moisture absorption, extremely flexible, and very impact resistant.

Grate Top Loading Classifications

Two grate classification systems are shown to assist in grate selection. Both standards are used in the trench drain industry to choose the proper grating to meet loading requirements.

6.1 ANSI A112.21.1M – Grates and top rims shall be designed to meet the following loading classifications:

6.1.1 Light Duty – All grates having safe live load (as calculated in paragraph 6.1.6) under 2,000 lb. [900 kg] (i.e. Pedestrian).

6.1.2 Medium Duty – All grates having safe live load (as calculated in paragraph 6.1.6) between 2,000 lb. [900 kg] and 4,999 lb. [2,250 kg] (i.e. Light Vehicle).

6.1.3 Heavy Duty – All grates having safe live load (as calculated in paragraph 6.1.6) between 5,000 lb. [2,250 kg] and 7,499 lb. [3,375 kg] (i.e. H2O).

6.1.4 Extra Heavy Duty – All grates having safe live load (as calculated in paragraph 6.1.6 between 7,500 lb. [3,375 kg] and 10,000 lb. [4,500 kg] (i.e. Forklift).

6.1.5 Special Duty – Grates having safe live load (as calculated in paragraph 6.1.6) over 10,000 lb. [4,500 kg] shall be considered special and treated accordingly (i.e. Airport). The maximum safe live load is computed by dividing the load at failure by two.

6.2 EN 1433 – Grates and top rims shall be designed to meet the following load classifications:

6.2.1 Classification A – Grate design load up to or exceeding 3372 lbf [15 kn] (i.e. Pedestrian).

6.2.2 Classification B – Grate design load of at least 28101 lbf [125 kn] (i.e. Light Vehicle).

6.2.3 Classification C – Grate design load of at least 56202 lbf [250 kn] (i.e. H2O).

6.2.4 Classification D – Grate design load of at least 89924 lbf [400 kn] (i.e. Pneumatic Forklift).

6.2.5 Classification E – Grate design load of at least 134885 lbf [600 kn] (i.e. Forklift).

6.2.6 Classification F – Grate design load of at least 202328 lbf [900 kn] (i.e. Airport). In areas of extreme hard wheel forklift traffic (i.e. steel wheels), the Zurn -HD Frame Assembly is required.

Transportation Classifications

The American Association of State Highway and Transportation Officials' (AASHTO) "Standard Specification for Highway Bridges" defines H-20 loading as a two-axle truck with a maximum dual-wheel load of 16,000 pounds. HS-20 loading is defined as a tractor truck with a tandem axle semi trailer with a dual-wheel load of 16,000 pounds.

The FAA (Federal Aviation Administration) Advisory Circular AC 150/5320-6D describes aircraft loading as 100,000 pounds placed over a 9" x 9" area.

The Americans with Disabilities Act (ADA) stipulates that the slot width be limited on gratings in walkways and elongated slots must be placed longitudinally so they are perpendicular to the dominant direction of travel.

Chemical Resistance Information

Flo-Thru Drainage System

Chart below shows chemical resistance of polyester and vinylester to select chemicals. For a more complete list or for other chemicals, contact your Zurn Sales Representative.

CHEMICAL	PERCENTAGE CONCENTRATION	POLYESTER RESIN	VINYLESTER RESIN
		MAX. TEMPERATURE °F	
Acetic Acid	50	120	210
Acetone	10	NR	NR
Ammonium Acetate	65	NR	80
Ammonium Chloride	All	150	210
Amyl Alcohol	All	NR	120
Benzene	100	NR	NR
Borax	100	150	210
Boric Acid	All	150	210
Chlorine, dry gas	100	120	210
Chlorine, wet gas	100	NR	210
Chlorine Dioxide	All	NR	150
Chlorine Water	Sat'd.	NR	180
Chromic Acid	5	NR	150
Chromic Acid	20	NR	120
Citric Acid	All	150	210
Crude Oil (Sour)	100	150	210
Dibutyl Ether	100	NR	180
Diesel Fuel	100	110	180
Diethlene Glycol	100	140	180
Ethylene Glycol	100	150	210
Fatty Acids	All	150	210
Fuel Oil	100	150	180
Gasoline, Aviation	100	100	180
Glycerine	100	150	210
Hydraulic Fluid	100	NR	180
Hydrogen Chloride	100	110	210
Jet Fuel (JP-4)	100	–	180
Kerosene	100	110	180
Lead Acetate	All	80	210
Linseed Oil	100	150	210
Magnesium Nitrate	All	150	210
Mercury	100	150	210
Minerals Oils	100	150	210
Naptha	100	80	180
Napthalene	100	110	210
Nickel Sulfate	All	110	210
Nitric Acid	5	NR	150
Potassium Bicarbonate	50	–	180
Potassium Nitrate	All	150	210
Silver Nitrate	All	150	210
Sodium Acetate	All	150	210
Sodium Carbonate	10	NR	180
Sodium Chloride	50	NR	100
Sodium Hydroxide	50	NR	210
Sour Crude Oil	100	150	210
Sugar, Sucrose	All	–	210
Sulfuric Acid	75	–	100
Toluene	100	NR	80
Turpentine	100	NR	150
Vinegar	100	110	210
Vinyl Toluene	100	–	80
Xylene	100	NR	80
Zinc Chloride	70	150	210

Perma-Trench Drainage System

Chart below shows chemical resistance of high density polyethylene structural composite to select chemicals and temperatures at the maximum concentration percentage. For a more complete list or for other chemicals, contact your Zurn Sales Representative.

CHEMICAL	MAX. % CONCENTRATION	MAX. TEMPERATURE °F
Acetic Acid	60	70
Acetone	All	140
Alcohol	All	140
Aluminum Chloride	All	140
Ammonia	All	68
Ammonium Hydroxide	–	NR
Battery Acid	All	140
Beer	All	140
Benzene	All	140
Borax	All	140
Brake Fluid	All	140
Bromic Acid	10	140
Calcium Carbide	All	140
Calcium Chloride	All	140
Calcium Hypochlorite	All	140
Carbon Tetrachloride	–	NR
Chlorinated Pool and Spa Water	–	105
Chlorobenzene	–	NR
Citrus Juices	All	140
Dibutyl Ether	–	NR
Dichloroethane	–	NR
Ethanol	96	140
Ethyl Alcohol	96	140
Ethylene Dichloride	–	NR
Formaldehyde	10	140
Fructose	All	140
Fuel Oil	All	140
Heptane	–	NR
Hydraulic Fluid	All	68
Hydrochloric Acid	35	140
Kerosene	All	68
Machine Oil	All	68
Methyl Ethyl Ketone	–	NR
Methanol	All	68
Methyl Alcohol	All	68
Milk	All	140
Phosphoric Acid	90	140
Sodium Carbonate	All	140
Sodium Hydroxide	All	140
Sodium Nitrate	50	140
Sulfuric Acid	50	140
Toluene	–	NR
Urine	All	140
Vinegar	All	140
Water, Distilled	All	140
Xylene	–	NR
Zinc Oxide	All	140
Zinc Sulfate	All	140