

GRATE EXPECTATIONS

LARGE AREA GRATES, FIELD FABRICATED

VGBA Compliant - Safety and Performance

Grate Ideas Large Area Grating is custom made to your specifications. Based on its robust design for heavy duty applications, Grate Ideas field fabricated grates have been independently tested to be in compliance with ASME 112.19.8a-2008. High impact PVC ensures these grates are durable enough to provide ten years of service.

Available in two designs, LAG 375-375 and LAG 1125-375, the grates provide 40% and 29% open surface respectively. GIA large area grates are built to your unique specifications allowing for flexibility of any shape and size. The surface area is textured to meet ASTM C-1028 Static Coefficient of friction, wet and dry.

Grate Ideas Large Area Grating Systems can be engineered perfectly to fit those difficult vanishing edge catch basin designs, straight or radius.

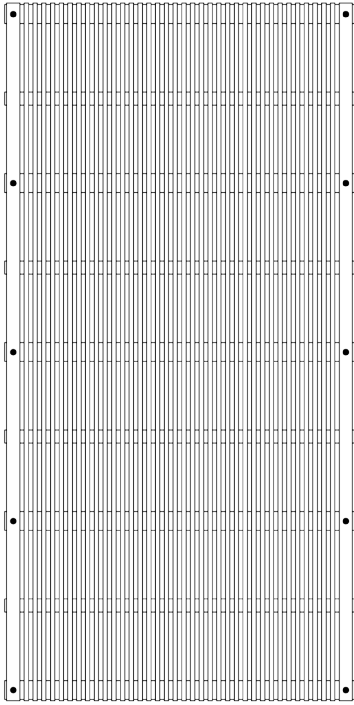
GIA is the market leader in custom field fabricated PVC grate products. UV inhibitors are added to all products to extend service life. All grates are offered in a choice of colors: white, gray, blue, sand, almond and black.

GRATE
IDEAS®



High Flow Frame

Part # LAG 375-375



ROBUST DESIGN FOR HEAVY DUTY APPLICATIONS

Any width and length with panels custom fabricated up to 6' x 6'

- 3/8" x 3/4" high, tube spaced 3/8" apart
- 40% Open Surface

ASME 112.19.8a-2008 Compliant

- Passed all applicable requirements for field fabricated grates
 - Vertical, Horizontal, Point and Pull Loads
 - 750 Hour UV test requirements

High Impact PVC in White, Blue, Sand, Black, Almond and Gray

ASTM C-1028 Static Coefficient of friction, wet and dry

- Anti Skid Top

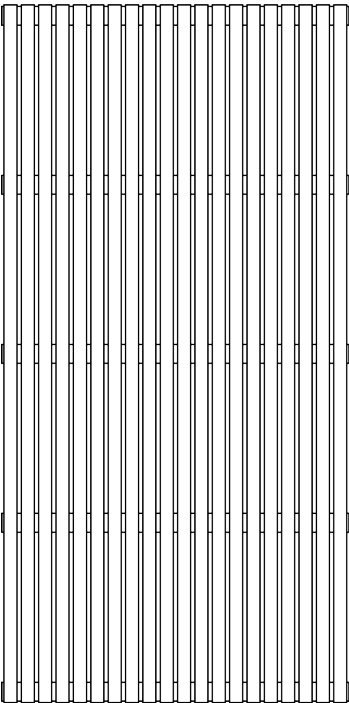
Fastening Set containing

- 1/4"-20 x 3 1/2" 316 Stainless Steel Screw
- 1/4"-20 Stainless Steel Drop in Anchor
- Color Matched PVC Cap



Regular Flow Frame

Part # LAG 1125-375



OUR STRONGEST DESIGN

Any width and length with panels custom fabricated up to 6' x 6'

- 1 1/8" x 3/4" high, tube spaced 3/8" apart
- 29% Open Surface

ASME 112.19.8a-2008 Compliant

- Passed all applicable requirements for field fabricated grates
 - Vertical, Horizontal, Point and Pull Loads
 - 750 Hour UV test requirements

High Impact PVC in White, Blue, Sand, Black, Almond and Gray

ASTM C-1028 Static Coefficient of friction, wet and dry

- Anti Skid Top

Fastening Set containing

- 1/4"-20 x 3 1/2" 316 Stainless Steel Screw
- 1/4"-20 Stainless Steel Drop in Anchor
- Color matched PVC Cap



VGBA Compliance Data

Grate Ideas of America furnishes field fabricated, submerged suction grates made of PVC. We have verified through a nationally recognized testing laboratory, Intertek Testing Services, that Models LAG 375-375 and 1127-375 are in compliance with the standard requirements of ASME A112.19.8a-2008

Section 3.2 - Ultraviolet Light Exposure Test.

These UV exposed samples retained in excess of at least 70% of the unconditioned (virgin) value when the tests indicated in Section 3.2.2.1 and 3.2.2.2 were performed and therefore exceed the performance requirements of Section 3.2.2.3. Testing provided a minimum 1.22 K Factor* for Structural testing.

Note: All Structural Testing was completed using a higher K Factor of 1.25.

All test samples were installed with a 2" x 2" HDPE square block. Other installations such as poured concrete were considered equivalent to the articles tested provided they employ suitable hardware installed per the manufacturer's specifications and they are rated for equivalent fastening loads.

LAG 375-375 grates have an open surface area percentage range of 50% based on each tube being 3/8" wide and each space in between tubing being 3/8" wide. However, the grate open area % calculates to a range of 36% to 40% based on the trusses attached to the underside and a 1 1/8" tubing applied around the edges for mounting purposes.

LAG 1125-375 grates have an open surface area percentage range of 30% based on each tube being 1 1/8" wide and each space in between tubing being 3/8" wide. However, the grate open area % calculates to a range of 18% to 20% based on the trusses attached to the underside.

Structural Test Summary

Section 3.3 - Vertical Load Deformation Test - At the conclusion of the test there were no permanent deformation, cracks or loss of material observed.

Test Article	Size	Load per Standard (300 lbf)	K Factor	Load as per Standard plus K Factor (375 lbf)
LAG-375 X 375	3' x 3'	Pass	1.25*	Pass
LAG-375 X 375	3' X 6'	Pass	1.25*	Pass
LAG-1125 X 375	3' x 3'	Pass	1.25*	Pass
LAG-1125 X 375	3' X 6'	Pass	1.25*	Pass

Section 3.4 - Horizontal Load Deformation Test - At the conclusion of the test there were no permanent deformation, cracks or loss of material observed.

Test Article	Size	Load per Standard (150 lbf)	K Factor	Load as per Standard plus K Factor (187.5 lbf)
LAG-375 X 375	3' x 3'	Pass	1.25*	Pass
LAG-375 X 375	3' X 6'	Pass	1.25*	Pass
LAG-1125 X 375	3' x 3'	Pass	1.25*	Pass
LAG-1125 X 375	3' X 6'	Pass	1.25*	Pass

Section 3.5 - Point Load to Excess Test - At the conclusion of the test there were no permanent deformation, cracks or loss of material observed.

Test Article	Size	Load per Standard (600 lbf)	K Factor	Load as per Standard plus K Factor (750 lbf)
LAG-375 X 375	3' x 3'	Pass	1.25*	Pass
LAG-375 X 375	3' X 6'	Pass	1.25*	Pass
LAG-1125 X 375	3' x 3'	Pass	1.25*	Pass
LAG-1125 X 375	3' X 6'	Pass	1.25*	Pass

Section 3.6 - Shear Load Test - Not Applicable

This test is only applied to fittings that protrude 1/2 in. or more from the mounting plane. Both designs submitted are flush mount.

Section 3.7 - Pressure Differential and Point Impact Test - Not Applicable

Based on the size of the field fabricated grates submitted, they are unblockable and would never experience the pressure differential calculated under this testing procedure.

Section 3.8 - Pull Load Test - At the conclusion of the test there were no permanent deformation, cracks or loss of material observed.

Test Article	Size	Load per Standard (150 lbf)	K Factor	Load as per Standard plus K Factor (187.5 lbf)
LAG-375 X 375	3' x 3'	Pass	1.25*	Pass
LAG-375 X 375	3' X 6'	Pass	1.25*	Pass
LAG-1125 X 375	3' x 3'	Pass	1.25*	Pass
LAG-1125 X 375	3' X 6'	Pass	1.25*	Pass

These tests were conducted to support the Registered Design Professional's (as defined in Section 1.5, ASME A112.19.8a-2008) field fabricated outlet design and specification (as defined by Section 2.3.1, ASME A112.19.8a-2008) when using the Grate Ideas Model LAG-1125-375 and LAG-375-375 PVC pool grates. The Registered Design Professional shall advise the facility Owner in writing of the specifications called for in paras.7.1.1(b)(1) through (7) of ASME A112.19.8a-2008. We recommend that the Owner maintain a copy of this written specification on file for their Registered Design Professional's reference when replacement field fabricated grating design and specification is required. Grate Ideas recommends replacement of all Model LAG-1125-375 and LAG-375-375 PVC pool grating after an installed life of 10 years. In addition, we would like to remind you that to obtain record of compliance from the Registered Design Professional, the grate model number, field built sump dimensions, and installation method of all field fabricated submerged outlet grating will need to be field verified prior to public use of the facility as meeting the Registered Design Professional's design and specifications.

Chuck Wobby

Grate Ideas of America LLC

Dated: June 1, 2010

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info@grate-ideas.com

Appendices

PVC Material Specifications

LAG 375-375 Drawing - 3' x 3'

LAG 375-375 Drawing - 3' x 6'

LAG 1125-375 Drawing - 3' x 3'

LAG 1125-375 Drawing - 3' x 6'

HDPE Ledge Fastening Detail

Concrete Fastening Detail

DETAILS, DETAILS, DETAILS...

Information and Specifications on "Grate ideas®" Gutter Grates

All grates are fabricated of PVC (polyvinylchloride) extrusions produced especially for the swimming pool environment. The formulation used yields a high-impact product.

The best colorfast pigments are used in association with ultra-violet resistant additives to allow the grates to be made available in color combinations which can be used both in indoor and outdoor installations.

TYPICAL PHYSICAL PROPERTIES:

	ASTM Test	At 72°F
Tensile Strength (psi)	D-638	6,100
Tensile Modulus (psi)	D-638	350,000
Flexural Strength (psi)	D-790	11,700
Flexural Modulus (psi)	D-790	415,000
Izod Impact (ft-lbs/in)	D-256	3.0
Coefficient of Linear Expansion: 3.45 in/in °F x 10-5	D-696	

The following colors are inventory material and readily available.

A01 WHITE	A04 GRAY
A02 ALMOND	A05 SAND
A03 LIGHT BLUE	

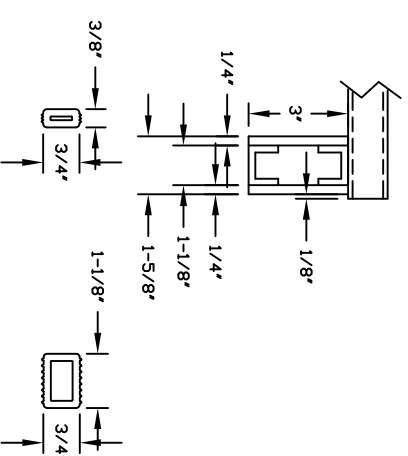
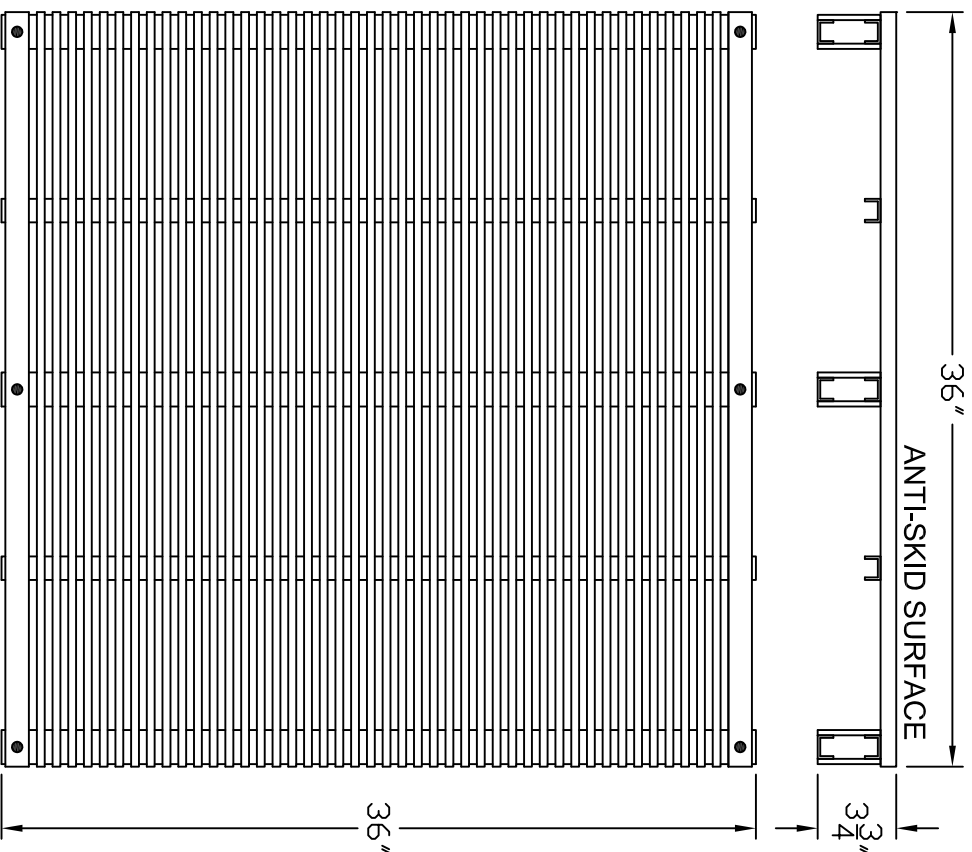
Other colors are available, but may be subject to a surcharge or a minimum run.

A non-skid surface is a standard feature on **GRATE IDEAS®** products.

Grates may be fabricated in various color combinations.

Large Area Grate

Model LAG-375-375



Open Area: 38.43%

498.09 sq in

At a velocity of 1.5 ft/sec this grate will allow a flow rate of 2328.41 gal/min.

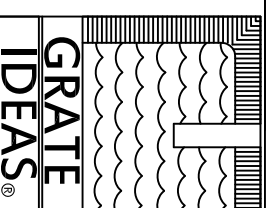
Grate shall be fabricated out of high impact PVC and shall use tubing that is 3/8" wide x 3/4" high. Tube on each side shall be 1-1/8" wide x 3/4" high to allow for fastening. Tubing to have machined anti-skid surface and be spaced 3/8" apart.

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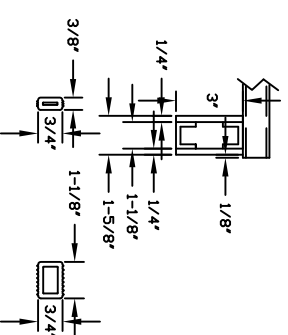
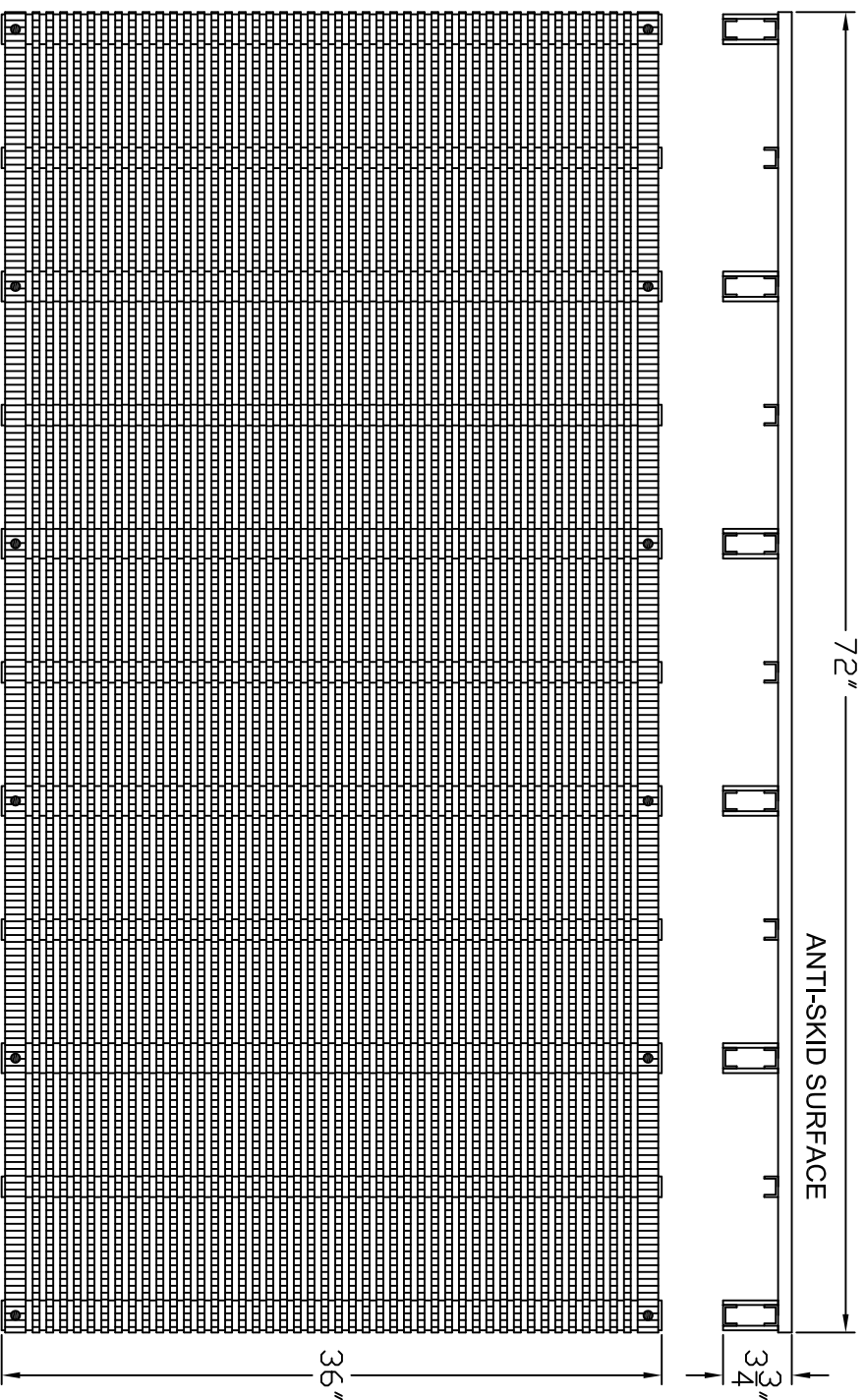
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Tel 800-292-6044
Fax 802-862-7976

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	KB	04-30-09		



Large Area Grate

Model LAG-375-375



Grate shall be fabricated out of high impact PVC and shall use tubing that is 1-1/8" wide x 3/4" high and 3/8" x 3/4" high. Tubing to have machined anti-skid surface and be spaced 3/8" apart.

Open Area: 37.39%

969.22 sq in

At a velocity of 1.5 ft/sec this grate will allow a flow rate of 4530.75 gal/min.

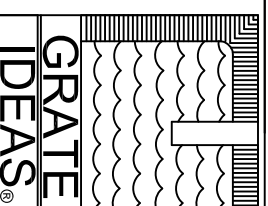
NOT TO SCALE

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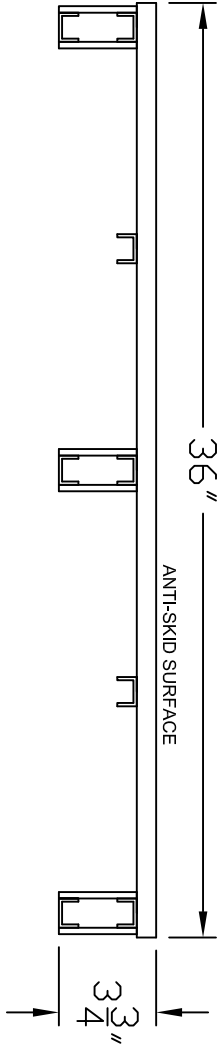
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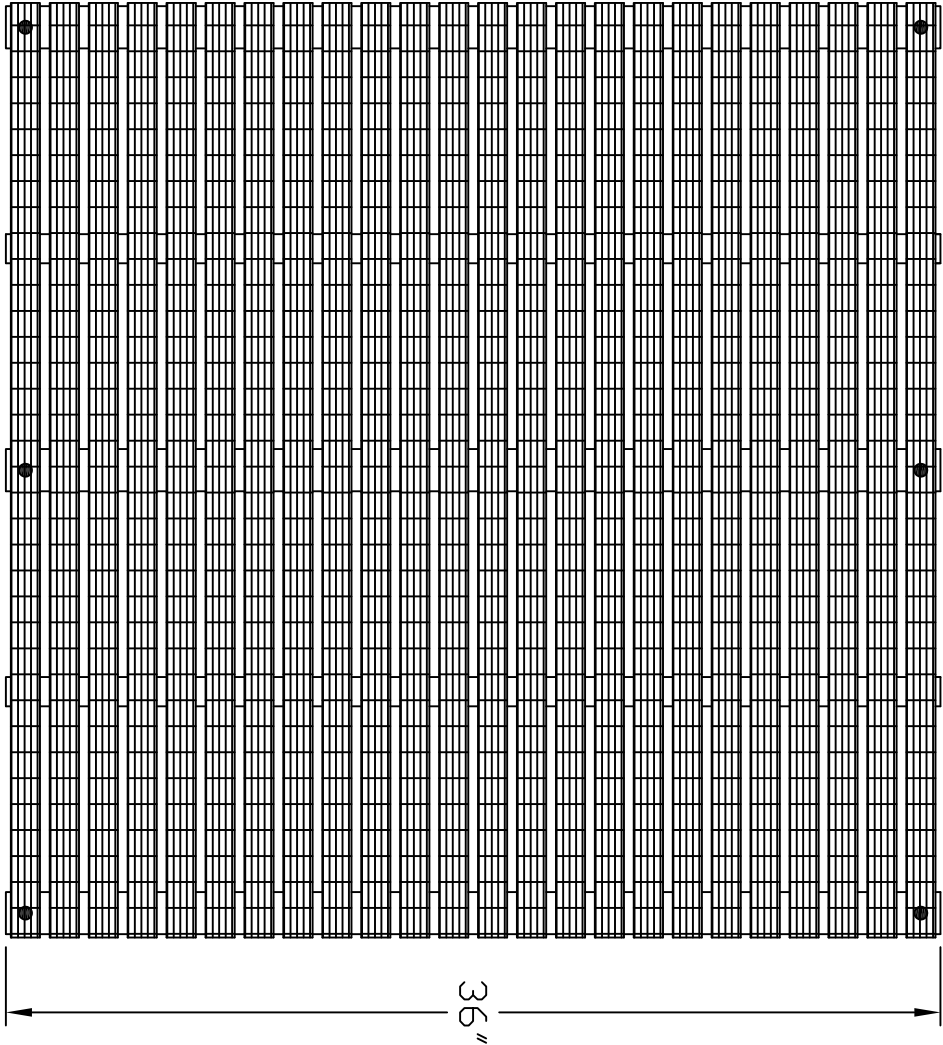


Large Area Grate

Model LAG-1125-375



Grate shall be fabricated out of high impact PVC and shall use tubing that is 1-1/8" wide x 3/4" high. Tubing to have machined anti-skid surface and be spaced 3/8" apart.



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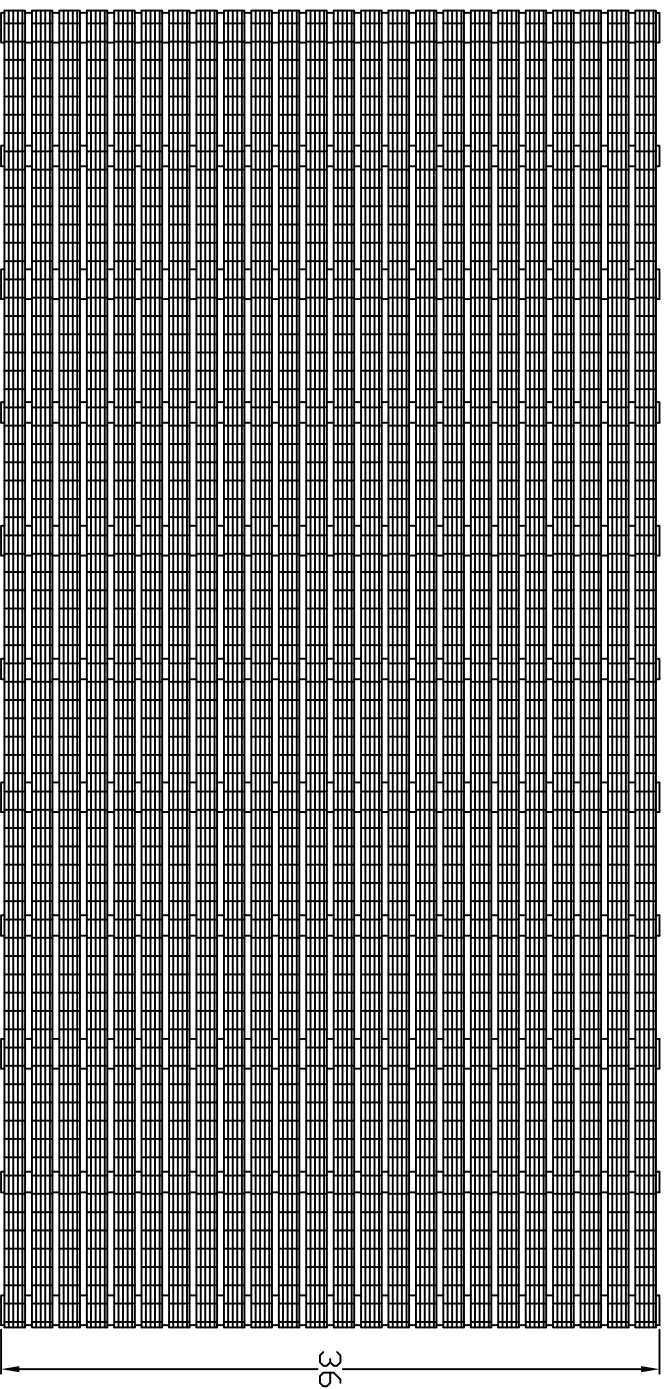
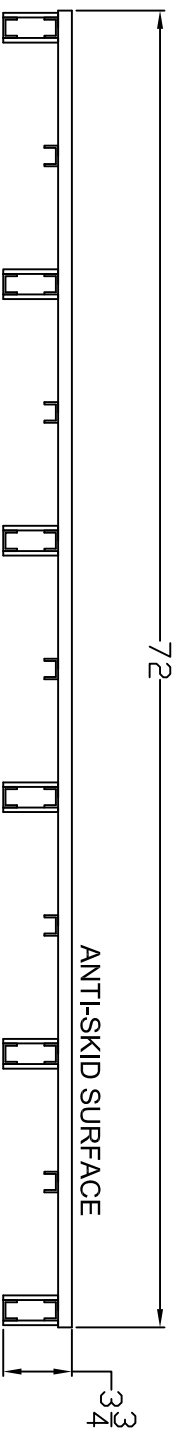
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NOT TO SCALE

Large Area Grate

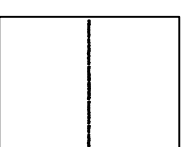
Model LAG-1125-375



Grate shall be fabricated out of high impact PVC and shall use tubing that is 1-1/8" wide x 3/4" high. Tubing to have machined anti-skid surface and be spaced 3/8" apart.

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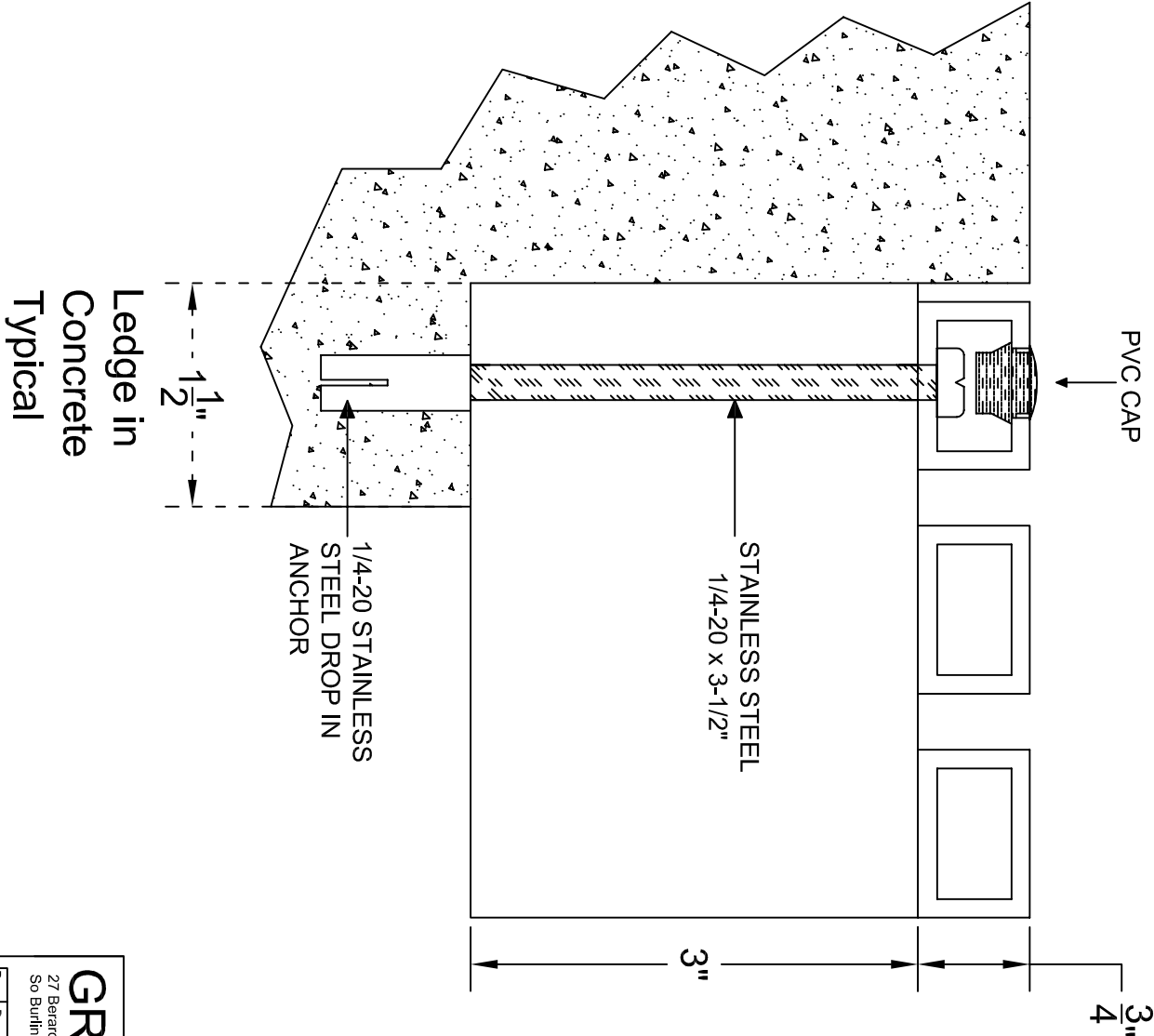
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Not To Scale

Large Area Grate

Model LAG-1125-375

Fastening Detail



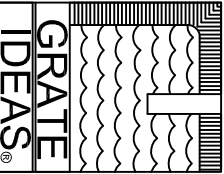
Ledge in
Concrete
Typical

Not To Scale

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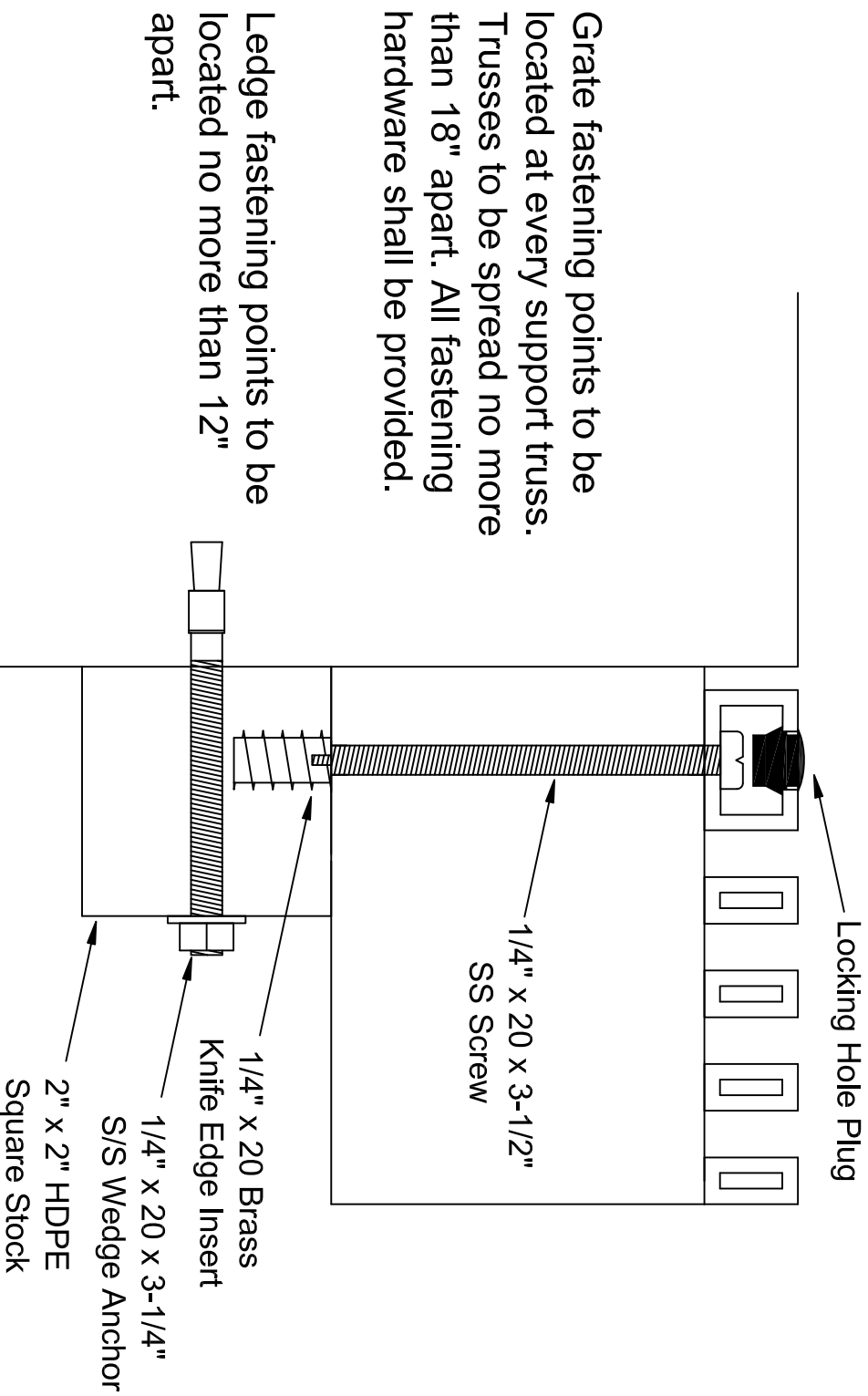
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Large Area Grate

Model LAG-375-375

HDPE Ledge Fastening Detail



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