

CURVE GRATES

INSTALLATION GUIDE



STONE
| REINFORCED |

INSTALLATION

Curve Grates

There are **3 Methods** to create the right formwork for casting **curve channels**. These methods help to accommodate **specific radii** of curve grates and **ease installation**.

Method 1 : Casting **Curve Drain w/ Recessed Shoulder Seating**

Method 2 : Casting **Curve Drain w/ L-Steel Angles**

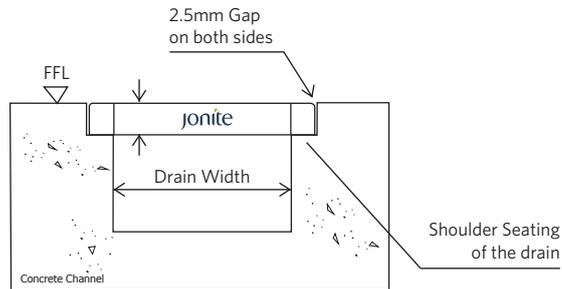
Method 3 : Casting **Curve Drain w/ JONITE Curve L-Trimmers**

It is highly important to attain the **nominal radii** indicated in the **CAD Drawings** as the **datum reference** of all Curve Grates. Wooden templates will be accurately developed by **CNC Routers** from Jonite.

CROSS-SECTION OF ALL 3 METHODS OF CASTING

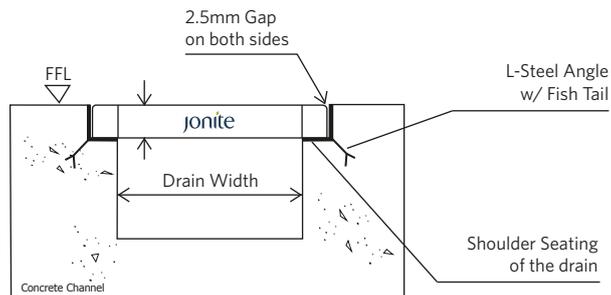
Method 1

Casting Curve Drain w/
Recessed Shoulder Seating



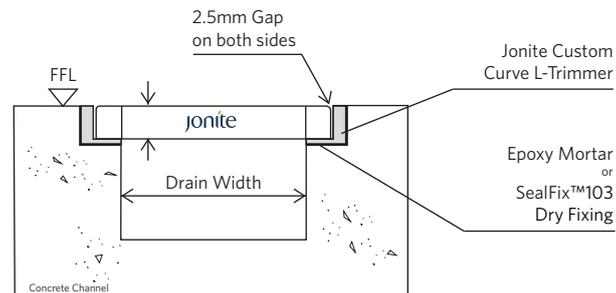
Method 2

Casting Curve Drain w/
L-Steel Angles



Method 3

Casting Curve Drain w/
Jonite L-Trimmers

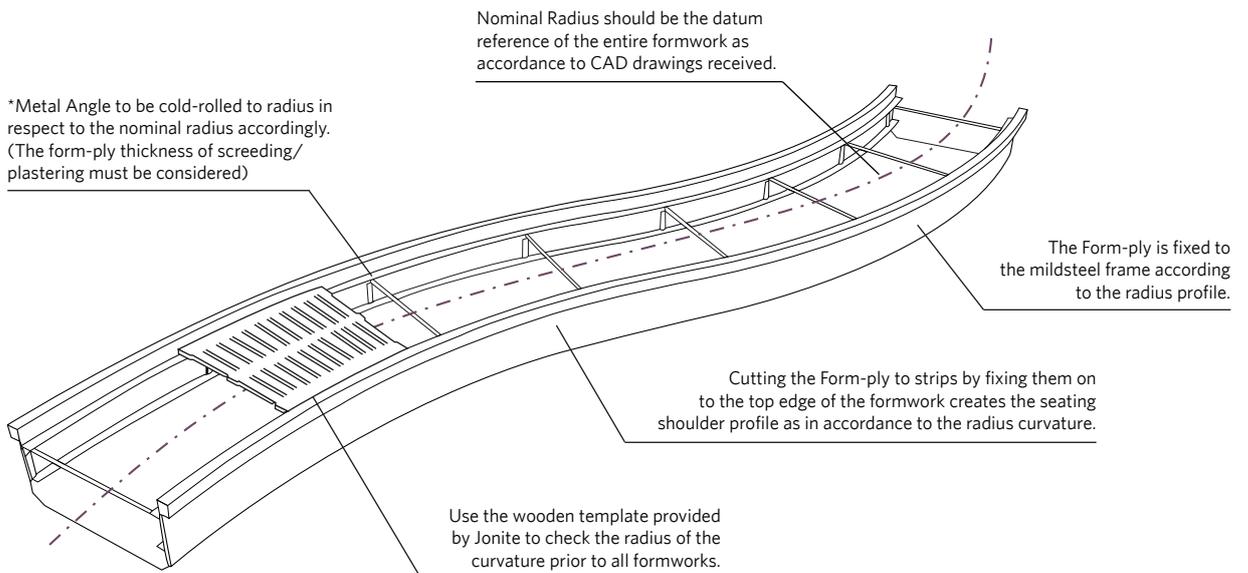


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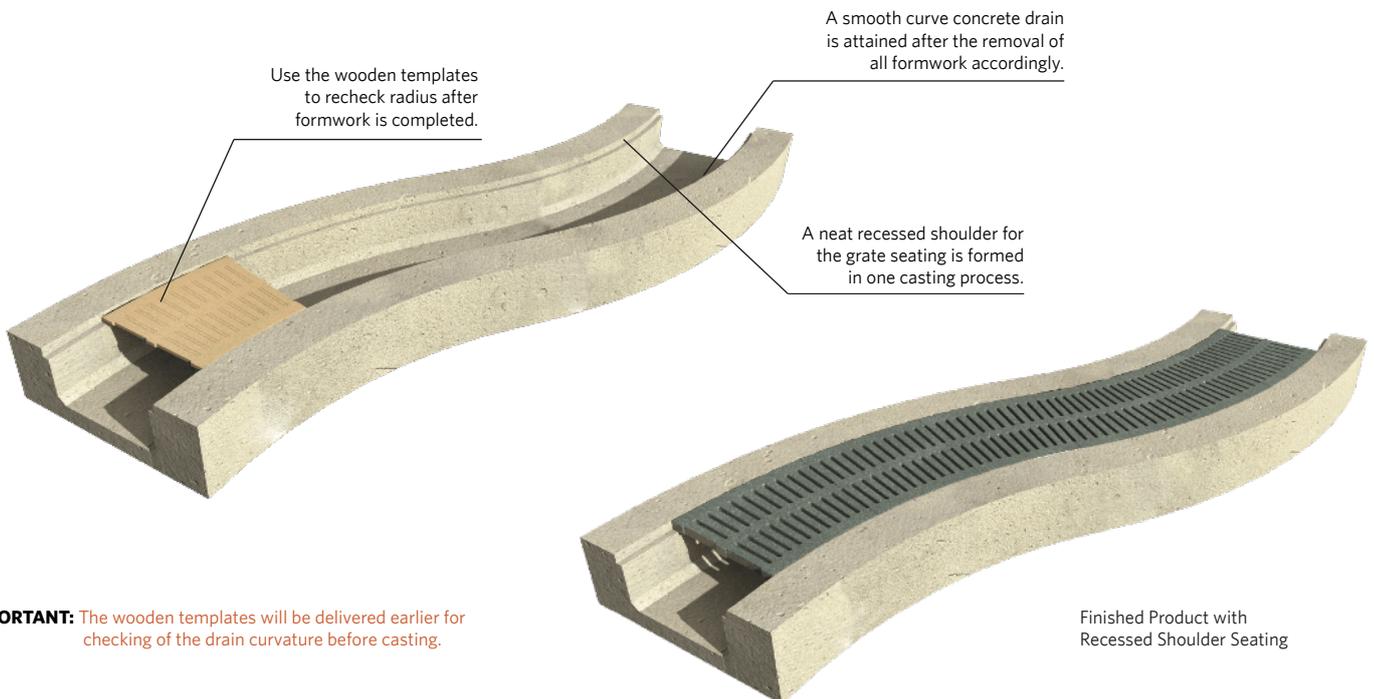
Curve Grates

1 RECESSED SHOULDER SEATING

This method uses **Metal Angle Bars cold-rolled** to the **required radii** with considerations such as **screeding, thickness of form-ply, and allowance of the internal drain**. Timber structure can also be used in replacement of the cold-rolled metal bars if the correct curvature is provided by the CNC Routers accordingly.



***NOTE:** Thick plywood can be used alternately with the Metal Angle Bar to be routed to the radius in respect to the nominal radius accordingly.



IMPORTANT: The wooden templates will be delivered earlier for checking of the drain curvature before casting.

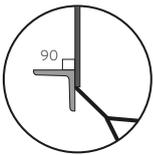
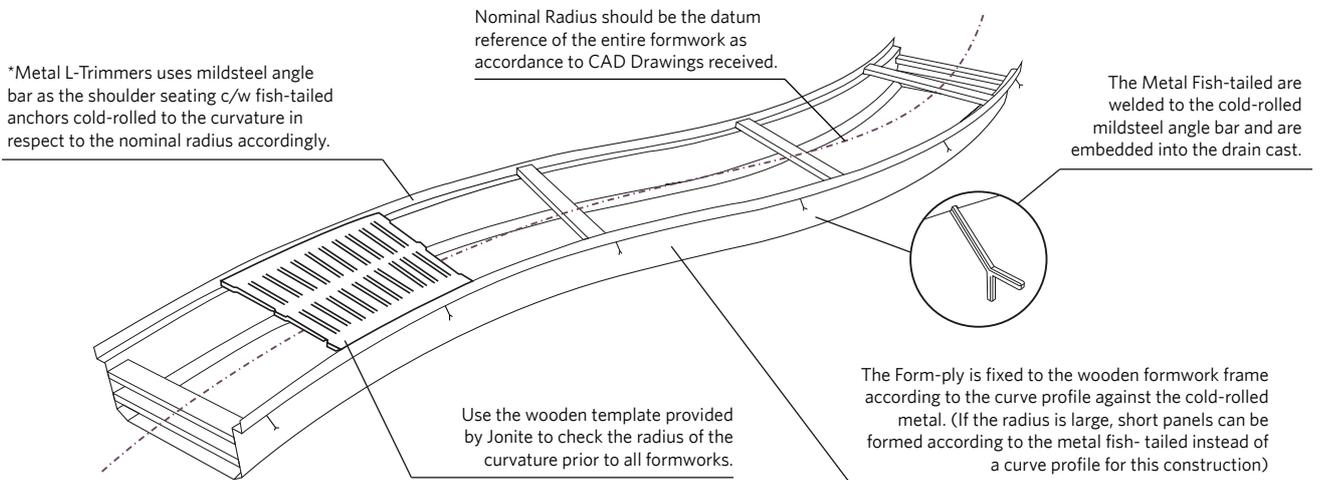
INSTALLATION

Curve Grates

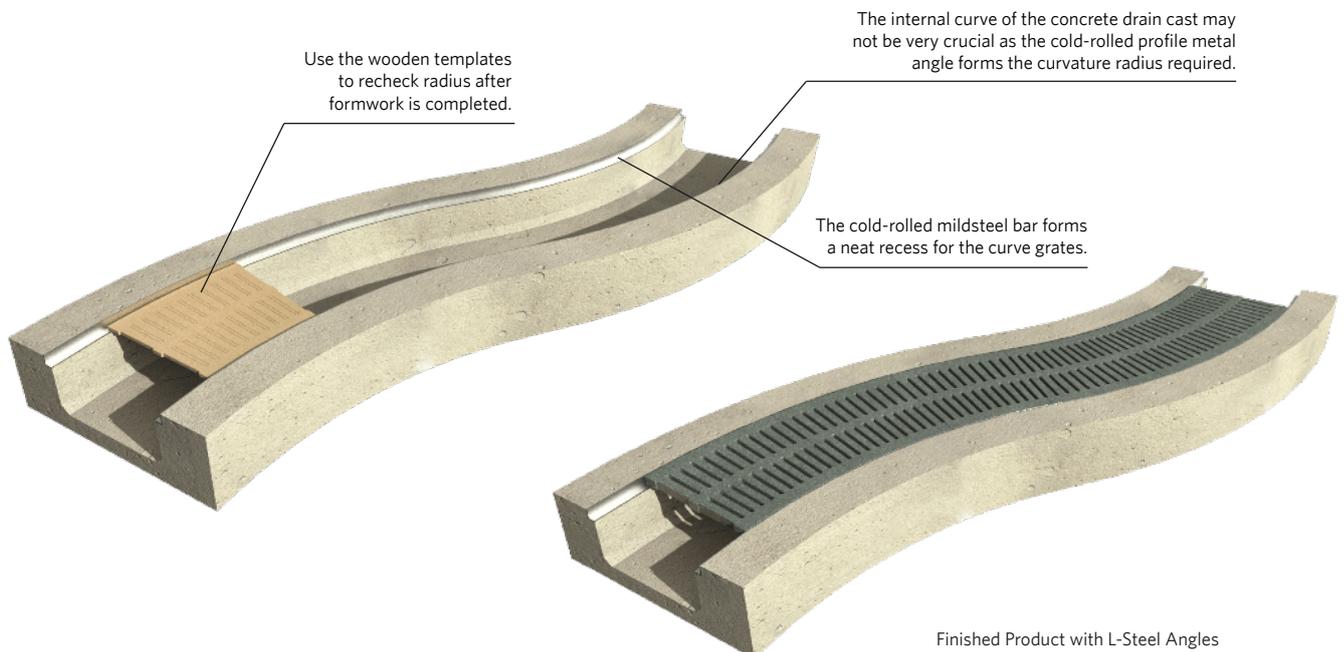
2 L-STEEL ANGLES

This method uses **L-Steel Angles** which are **mildsteel angle bars** with **fish-tailed anchors** as the shoulder seating for the Curve Grates. The angle bars are to be **cold-rolled** to the **required curvature** in respect to the **nominal radii** accurately as the Drawings stated. The entire metal frame in curvature will be positioned and mounted firmly over the timber formwork, and this formwork must also be **in line** with the curvature of the metal frame work accordingly. The wooden template can be used to check the curvature before casting.

IMPORTANT: The Curve Grate's width and tolerance must be taken into consideration.



IMPORTANT: An inverted Angle bar as shown must be used for Heavy Duty and the above application.



Finished Product with L-Steel Angles

INSTALLATION

Curve Grates

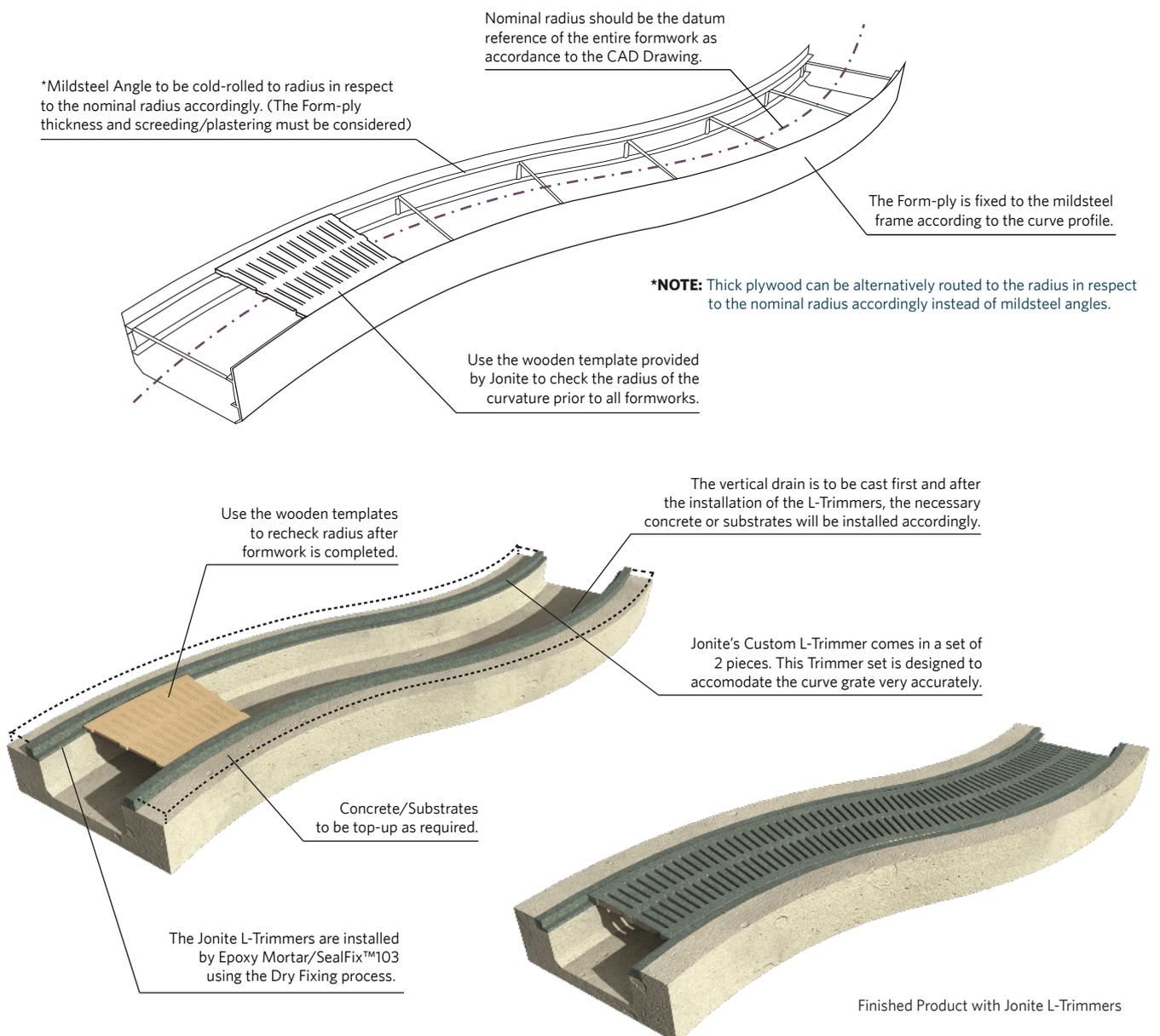
3 JONITE L-TRIMMERS

This method uses **Jonite L-Trimmer** as the shoulder seating for the curve grates. Jonite L-Trimmer method can be used for **any application**. The curved Jonite L-Trimmer comes in a set of two sections, the **inner curvature** and the **outer curvature**. Both of these are accurately produced according to the required curvature in respect to the nominal radii as the CAD Drawings indicated.

The vertical curve drain is cast similarly to **Method 1** without the recessed shoulder seating provision. The cast vertical curve drain will then be installed with the L-Trimmers in a **dry fixing method** by using **Epoxy Mortar** or **SealFix™103** (Recommended by Jonite). The top-up of concrete or substrate will be incorporated later as required.

IMPORTANT: The installation of L-Trimmers must be in accordance to the cast curvature of the drain.

The entire slab and drain can alternatively be cast in situ with **Method 1**, which will have the provision of the Jonite L-Trimmers as the shoulder seating accordingly in the framework.

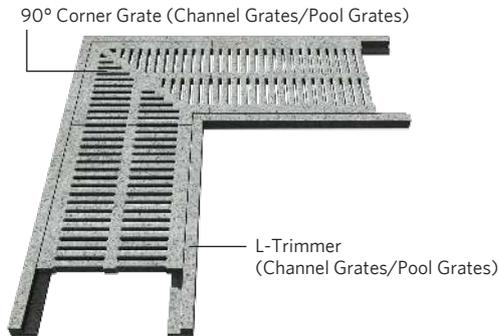


ACCESSORIES

for Standard Products

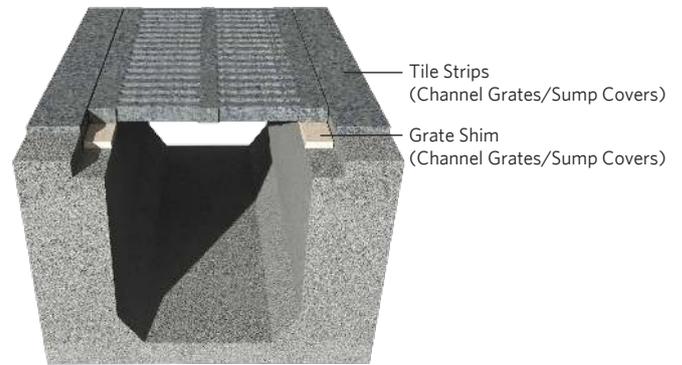
Extend functionality and add more flair to standard Jonite Trench Grates, Sump Covers, Pool Grates and Tree Grates.

TRENCH GRATES



90° Corner Grate

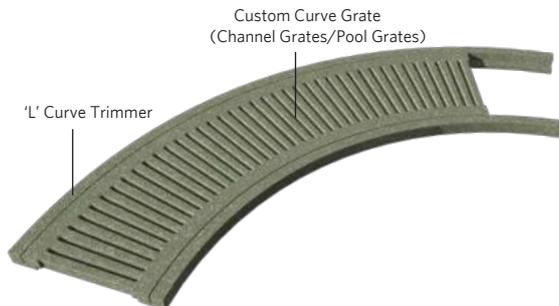
Available in limited trench and pool grate categories only. In place of the corner grate, two pieces of regular grates may be used. However, for heavy duty and above applications, it is advisable to incorporate a spline below the grate to sustain the required load.



Grate Shims And Tile Strips

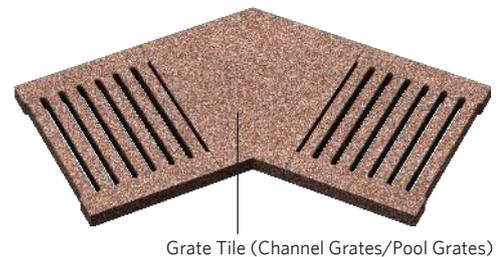
A Grate Shim is a flat strip of various thickness and approximately 30mm width, used to raise the grating to the desired height. It is fused permanently to the base of the grating during the fabrication process.

Tile Strips give an added flair to the edge of gratings covering concrete drains. Installable with SealFix™ 103, these tile strips are approximately 10mm thick and made of similar material as the grating.



Custom Curve Grates And L-Curve Trimmers

Jonite curve grates are available in any radius at an affordable cost. We also maintain a shortlist of custom curve grates for architects to keep costs low. This list is available upon request.



Grate Tiles

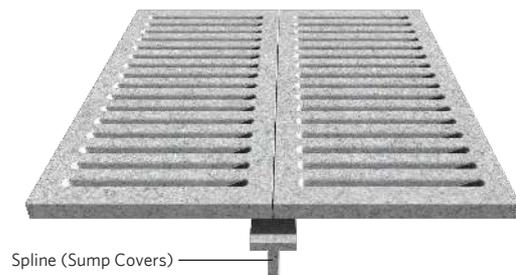
Grate Tiles are used when a drain encounters an irregular joint. The light duty models may be cut on site by the installer. Heavy duty and above models should be factor fabricated according to templates attained from site by the installer.

SUMP COVERS



L-Trimmers And L-Trimmer Frames

L-Trimmers and L-Trimmer Frames are recommended for Heavy Duty Gratings and above, providing aesthetical flair and high performance support for trench grates and sump covers.



Splines

Splines are available in matching look and feel to the grates they are used with. They are reinforced and strengthened to sustain the load of two pieces of grates or more, according to the load required. Both ends of the spline must be embedded into the concrete with sufficient seating of the recommended sump.

ACCESSORIES

for Standard Products

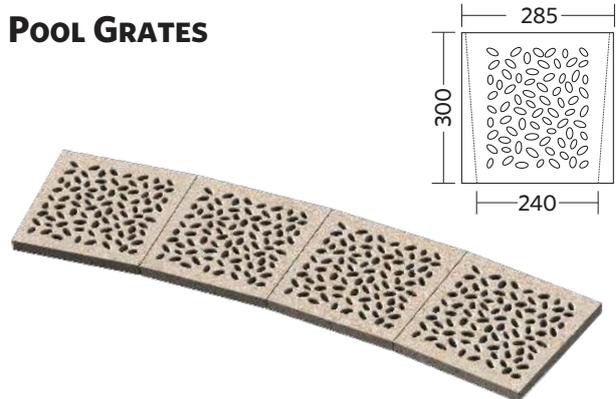
TREE GRATES



Tree Grate Reducers

Reducers come in various inner and outer diameters and simple universal patterns, enabling them to suit various tree-grate models. Its main purpose is to allow a simple removal when the growth of the tree requires expansion of the tree grate.

POOL GRATES



Pool Grate Blank Ends

Blank Ends come with a wider allowance of 50mm on each side of the grate for trimming, thus creating curvature without using curve grates. Alternatively, they can also be used for end pieces with odd lengths.

MAINTENANCE

Accessories

REPAIR KIT



Jonite, like any other natural stone material, can be chipped by hard or sharp objects at impact or damaged as a result of mishandling. Our handy Repair Kit, an epoxy putty filler system, allows you to easily make needed repairs.

The pre-mixed filler comes in standard colours that can be custom-matched as required. The repair is not superficial; rather it fuses to the core of the affected area as an integral unit, creating an even stronger bond than its original state. This formulation is specially designed for Jonite products only.

SEALFIX™ 103



SealFix™ 103 is a two-part epoxy mortar specially formulated for fixing Jonite components such as L-Trimmers or Frames used for heavy-duty performance. It has high strength bonding, is impermeable and chemical-resistant and suitable for 'dry-fixing'.

SURFACE PREPARATION

Surface to be sealed must be flat, solid and stable. All loose particles, oil, paint, wax or any substance that may inhibit adhesion must be removed. Adequate preparation via suitable mechanical means like scrubbing, grit blasting or needle gunning is crucial.

SHIELDFIX™ 108



All Jonite products are impregnated with a film of ShieldFix™ 108, a clear stone sealer. It acts as a protective veil during installation and handling. It has a very high compressive strength, remarkable cohesion and superior hardness and high wear-and-tear resistance, it is suitable even for driveways.

SURFACE PREPARATION

1. ShieldFix™ 108 is a two-component solvent-based coating in a matt finish.
2. Re-coating is possible if attempted in a proper environment and clean surface condition, using the correct application method.

KLEANSOL™ 511



A new propriety solution, Kleansol™ 511 is a stain and algae removal solution specially formulated for soiled Jonite products, especially pool grates. For normal cleaning, apply the solution to the surface for 15 to 30 minutes before scrubbing or water-jetting. For heavily soiled gratings, soak for a day or two.

PACKING

1. Available in 1-litre, 5-litre and 25-litre packing. PVC containers of 75-litre and 125-litre capacity for soaking are available upon request.
2. Glass marbles for the stacking of gratings during soaking are also available upon request.

LIFTING HOOKS



Lifting hooks are used for the installation and removal of gratings. Most gratings are designed with an up-lift force of less than 50kg, requiring only a maximum of two people to lift. For heavier gratings, a pair of T-hooks is recommended. T-hooks are available in steel and various materials to suit different sizes of gratings, and can also be used to pick up small pieces of gravel stuck between grating slots during maintenance.