

DURAT® CUSTOMISED SURFACES

Fabrication manual

Contents

INTRODUCTION	2
I. WORKSPACE, MACHINERY AND TOOLS	3
II. FABRICATION	
1. Cutting, routing and drilling	4
2. Seaming	
2.1 Seaming DURAT® sheet material	5
2.2 Seaming DURAT® basins	6
3. Edges and Cutouts	7
3.1 Downstands and backsplashes	7
3.2 Cutouts	8
4. Backside framing and support	8
5. Sanding and finishing	8
II. MAINTENANCE	9
STANDARD SINK SIZES	10

DURAT®

www.durat.com

INTRODUCTION

DURAT® is a solid polyester based material used for custom made surfaces in public and private interiors. It contains recycled plastics and is itself 100% recyclable.

DURAT® offers designers and fabricators almost infinite opportunities to create various surfaces. DURAT® sheets can be used to create for example coherent surfaces, without visible joints and seams, for tens of meters in length with various forms of edge designs and intarsia patterns. The standard DURAT® sheet is 2900 x 800 x 12 mm.

I. WORKSPACE, MACHINERY AND TOOLS

To work with DURAT® solid surface material the workspace can be a normal carpentry workshop with heavy duty machinery installed. Required machines include sliding table saw and other circular saws, routers and other hand operated machines and sanders all with good dust removal system.

Recommended machinery:

1. Sliding table saw
2. Miter saw
3. Hand operated routers, minimum 900 W
4. Hand operated planer
5. Drills
6. Random orbit and corner sanders

All cutting and routing machinery blades and mills must be equipped with tungsten carbide bits or solid tools. Recommended for sliding table saw is a 300 mm blade with 96 triple chip grind diamond bits.

Sanding machines must be random orbital machines, electric or pneumatic with 3-5 mm stroke. Abrasives must be suitable for composite material sanding with grit range from 100 to 400, finishing is done with 360 to 1000 grit finishing pads.

Other needed tools include clamps (bar clamps, spring clamps, pipe clamps, flooring clamps etc.), chisels, templates for cutouts and round shapes, heat gun for thermoforming, jig saw and other normal woodworking tools.

II. FABRICATION

I. Cutting, routing and drilling

Always use local precautions and work safety regulations when working with DURAT® solid surface material. Be sure to wear eye and hearing protection. Please allow 3 mm gap between walls.

In case screws need to be used, drill preliminary holes in the surface before screwing. The diameter of the pre-drilled hole should be 0.5 mm smaller than the screw.

When drilling larger holes in the DURAT® material, for example tap holes, it is recommended to use drills for composite materials with tungsten carbide bits.

Milling DURAT® generates a lot of heat so be sure not to use excessive pressure and milling speed when operating. Otherwise you might damage the material and machines. This applies for sanding as well.

2. Seaming

2.1 Seaming DURAT® sheet material

Check the pieces fit perfectly and are clean of dust and markings. It is advised to lightly sand any markings especially with light colors such as 100 and 910 white.

DURAT® adhesive is a two component adhesive and it is provided with sheet material. The color of the adhesive is the same as the color of the sheet. Same color adhesive, careful clamping and sanding provides DURAT® countertops to have invisible seams. DURAT® will provide glue guns with certain basic colors, for other colors adhesive and hardener are provided with plastic cups and a syringe to help measure and mix the mixture, DURAT® adhesive + 2% hardener.

Apply adhesive lightly on the surfaces. Let the adhesive overflow the seam. It is generally sufficient to spread the adhesive on just one side when the surface is placed horizontally. The adhesive should be spread on both sides when the surface is placed vertically.

It is important to clamp the surfaces within five minutes of applying the adhesive. The hardening time of the adhesive can be regulated with the amount of the hardener. 2% hardener allows about ½ hours of working time. 1% hardener allows 1 ½ hours.

Minimum clamping time is 1 hour, recommended clamping time is 2 hours. Excess drips of adhesive should be removed carefully with a chisel after one hour. This makes the sanding easier.

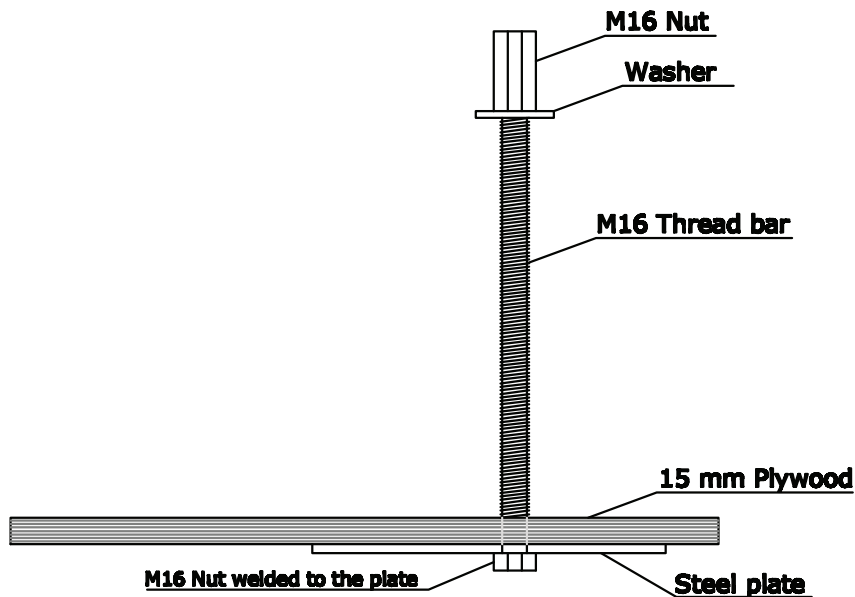
The seams are sanded after the adhesive has hardened. This can easily be checked: after the adhesive does not feel sticky, it is safe to sand the seam. Sand the seam and the surface close to it (30-40 cm) with a sander gradually (grit 100 to 240) and the top completely with grit 240 and 400 abrasives.

2.2 Seaming DURAT® basins

DURAT® basins are provided by the supplier ready to be mounted to the DURAT sheet with pre-milled holes for waste valve and overflow valve unless otherwise agreed with the supplier. The only preparation needed is to measure the position of the sink and to clean the sheet and the basin of any dust and markings. The basin is seamed on to the unfinished side of the sheet. Rectangular basins can be clamped with regular bar clamps on all sides. For oval and round basins use a bowl clamp or a similar clamp.

No cutout is needed before seaming the basin. It can be routed when the adhesive has hardened with a heavy duty hand operated router using a router mill with a bearing to follow the shape of the basin. When sanding the seams there might occur minor pores, these must be patched with the DURAT® adhesive and the surface sanded.

Clamp used by the manufacturer to clamp oval and round basins:

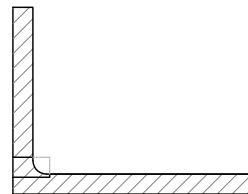
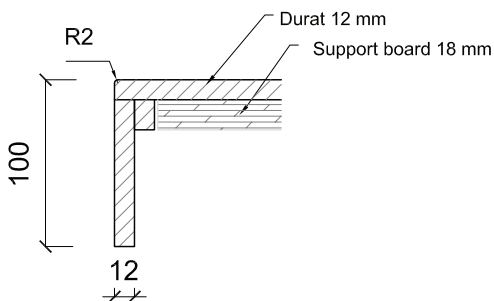
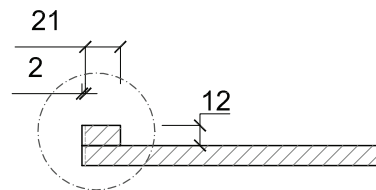
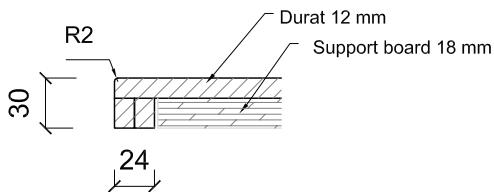
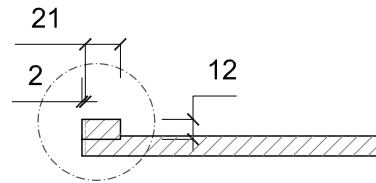
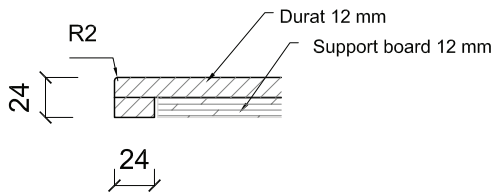


3. Edges and Cutouts

3.1 Downstands and backsplashes

The most common seaming is the downstand seamed to the front edge of a table top. The standard used with DURAT is 30 mm but there is no limit to the height of the downstand. We strongly recommend to use double thickness DURAT® for downstands from 30 to 50 mm. For higher downstands we recommend to use a stripe of DURAT seamed to the downstand piece as shown in the picture. Backsplashes can be done by two different methods, butted or covered backsplashes. We strongly recommend to use the covered backsplash method. The visible edges of the countertop should always be routed to R2 or more.

If the DURAT® top is milled to a round shape, downstand list can be heated with a heat gun and bended to shape.



3.2 Cutouts

Cutouts should always be done by the fabricator in the factory. Cutouts should also always be cut into 24 mm thick DURAT®. This is absolutely mandatory when installing under mounted steel sinks. If the factory is equipped with a CNC milling station it is highly recommended to mill cutouts with the CNC. Cutouts can be done by hand operated routers with routing templates. It is always best to measure each sink before milling to get accurate dimension of the cut out. Large majority of hob cutouts are standard size of 560 x 490 mm. Corners of the cutout should be as round as allowed, minimum R6. Edges of the cutout must be sanded or routed so that no nicks or defects remain.

4. Backside framing and support

Backside of a DURAT® top must be supported with moisture resistant plywood or MDF board. DURAT® recommends to use 18 mm plywood to cover backside completely. Ladder framing can also be used, but doesn't give as much support as full board. Leave 2 mm gap between downstands and support board. The support board is glued to the DURAT® top with flexible adhesive, for example silicone adhesive.

5. Sanding and finishing

Sanding should always be done with random orbital sander. Angle sanders are needed when sanding the seams on oval and round basins. Angle sanders must always be polishing machines with RPM lower than 3000.

Joined seams are sanded starting from grit 100 up to 400 using "North, South, East, West" method. Equal pressure and speed must be applied throughout sanding. Abrasives must be suited for sanding composite materials, dry or wet sanding.

For finishing we recommend to use Mirka Abralon® abrasive pads, from grit 360 to 1000 or Scotch-Brite 7447, 7448 pads.

II. MAINTENANCE

When taking a new surface into use it is recommended that the surface is cleaned with mild detergent or soap and water solution, which is then washed away with water. For difficult stains you can use dishwasher detergent.

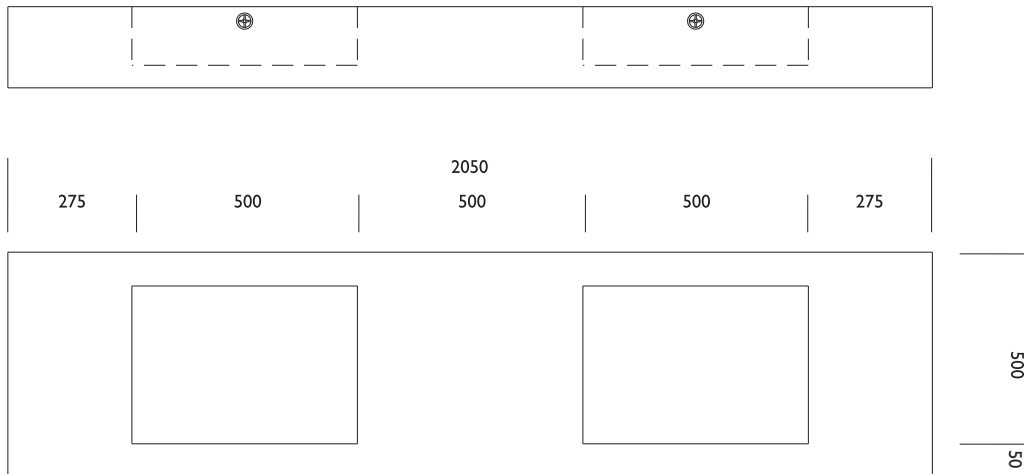
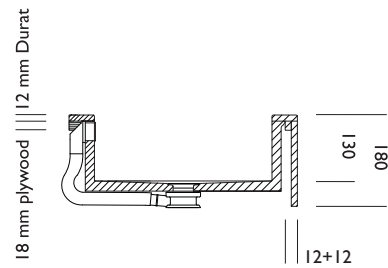
If needed the new surface can be treated with a thin furniture oil. After the oil has absorbed the surface is washed with a mild soap solution.

If the DURAT countertop is scratched or suffers similar damage, it can be resanded in the same manner as sanding a new product.

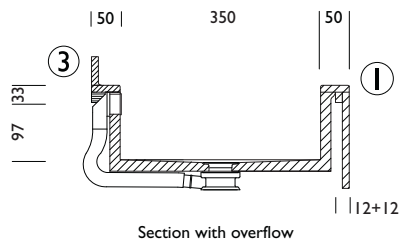
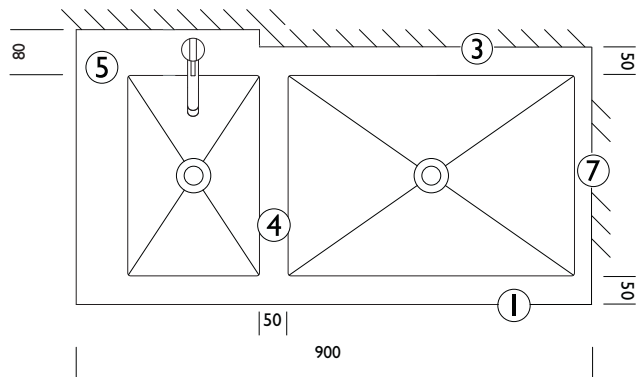
DURAT[®] STANDARD SINK SIZES

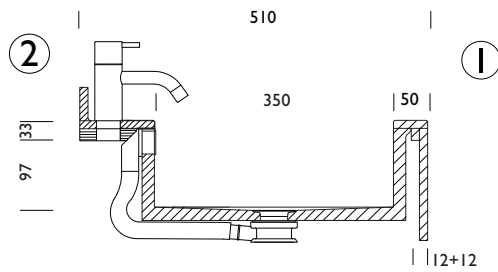
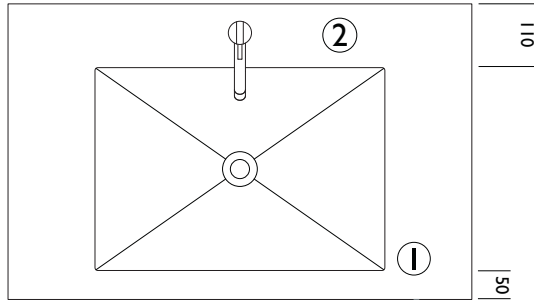
DURAT offers an extensive set of standard sinks - round, oval and rectangular - to be used in custom made vanity units for bathrooms and public sanitary facilities.

The standard sinks can be attached to a top of more or less any length and width, and the top can incorporate several sinks. The sinks are attached to the top from below to make up one entity. When attached to a top the inner depth of the sink will increase by the sheet thickness 12 mm.



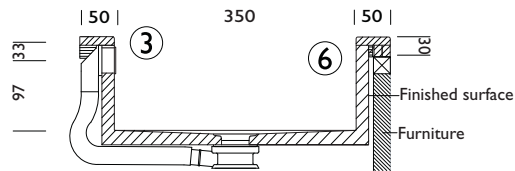
- 1 Minimum distance (50mm) between sink and front edge
- 2 Minimum distance (110mm) between sink and back edge with standard overflow and tap
- 3 Minimum distance (50mm) between sink and back edge with standard overflow
- 4 Minimum distance (50mm) between two sinks
- 5 Minimum distance (80mm) between sink and back edge with tap
- 6 Minimum distance (60mm) between sink and front edge when Durat top is placed on furniture
- 7 Minimum distance (30mm) between sink and wall





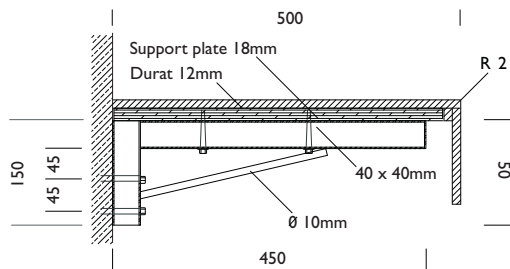
Section with tap and overflow

Durat top placed on furniture

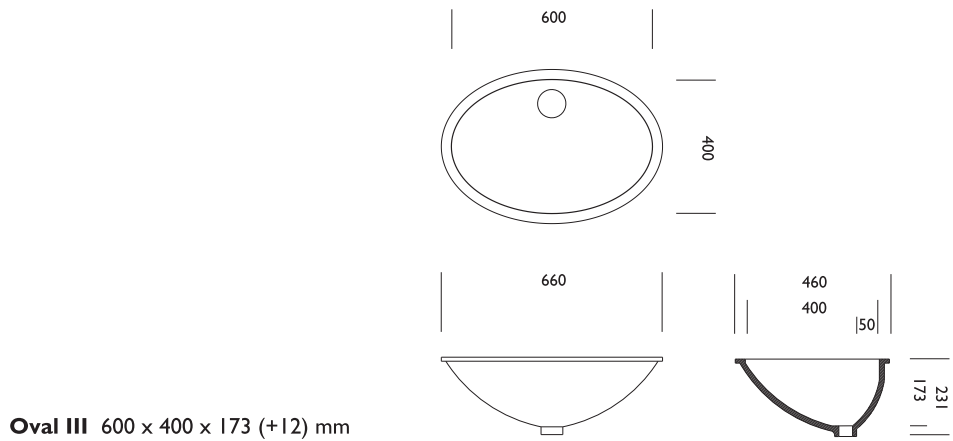
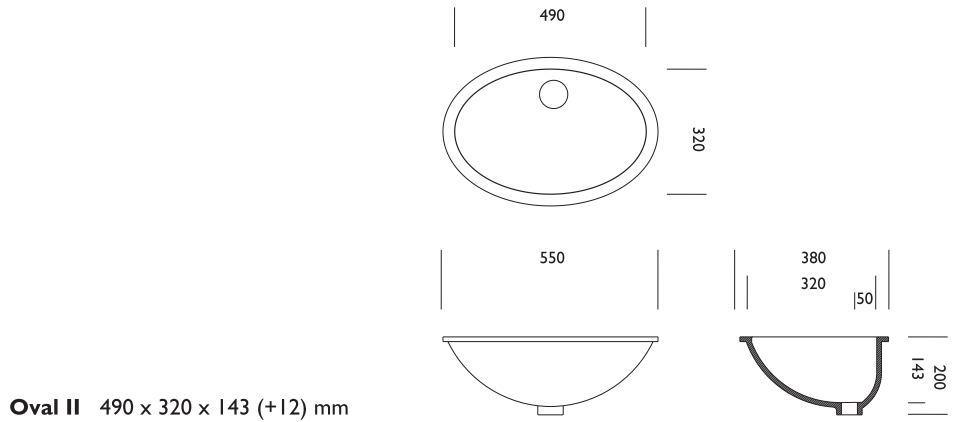
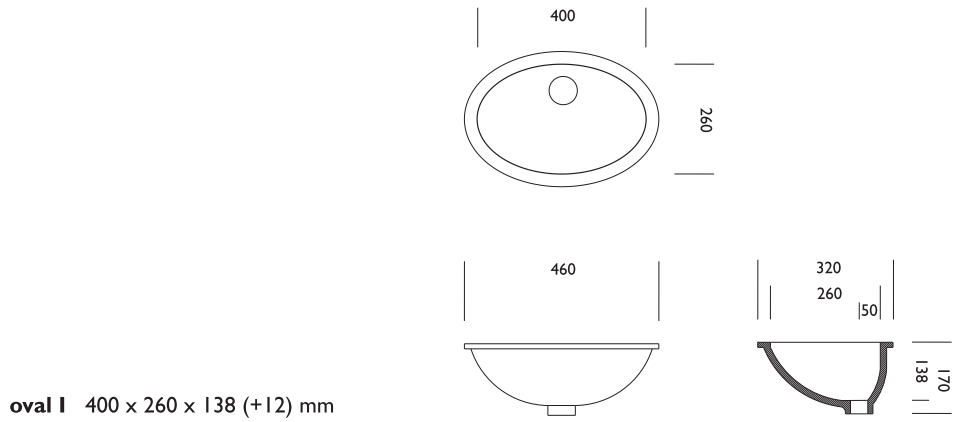


Section with overflow

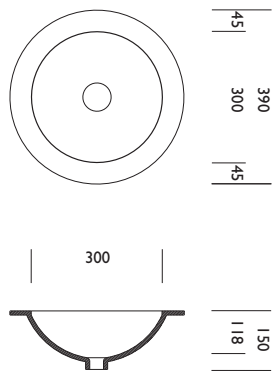
Durat top wallmounted with stainless steel support structure



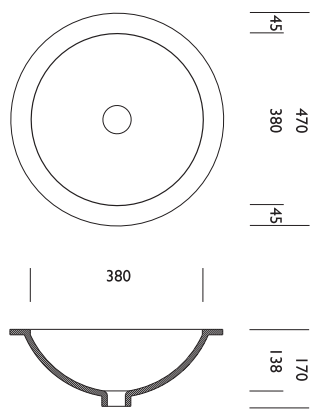
Section of stainless steel structure



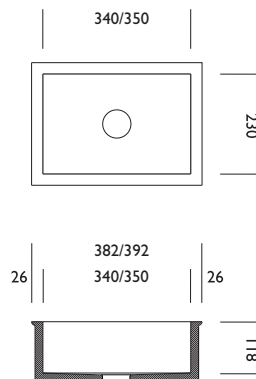
Round I $\varnothing 300 \times 118 (+12)$ mm



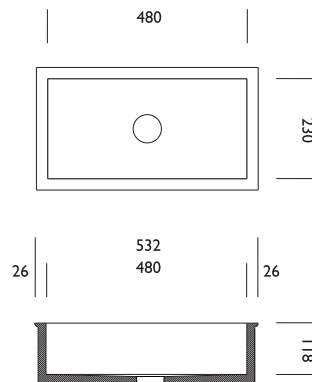
Round II $\varnothing 380 \times 138 (+12)$ mm



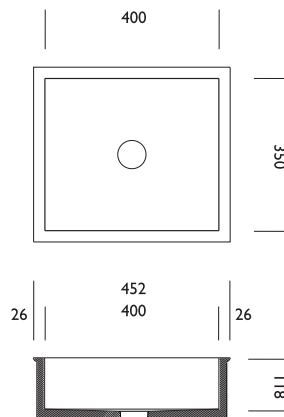
Rectangular I 340/350 x 230 x 118 (+12) mm



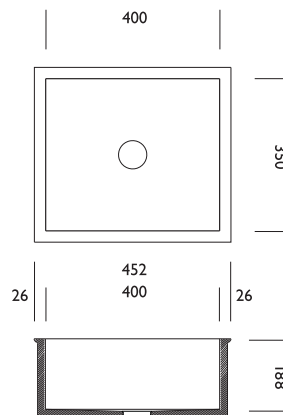
Rectangular II 480 x 230 x 118 (+12) mm



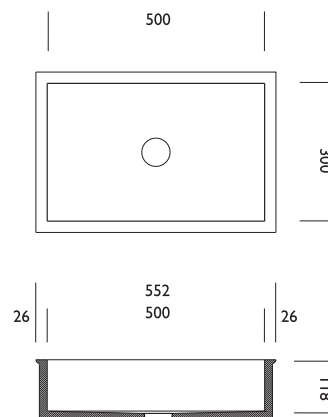
Rectangular III 400 x 350 x 118 (+12) mm



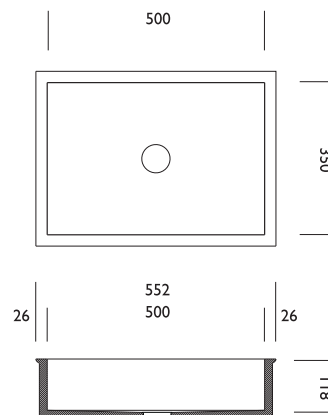
Rectangular III (Kitchen) 400 x 350 x 188 (+12) mm



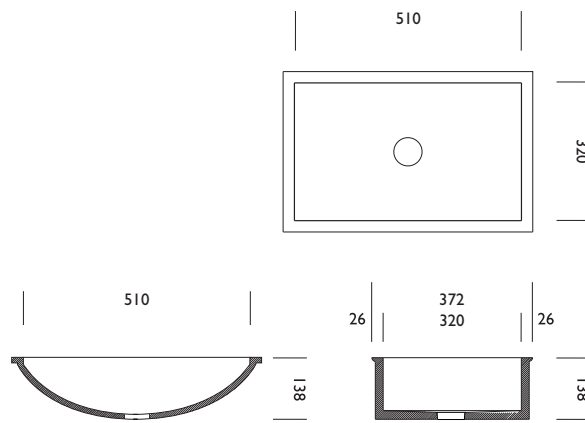
Rectangular IV 500 x 300 x 118 (+12) mm



Rectangular V 500 x 350 x 118 (+12) mm



Rectangular VI KEHTO
 510 x 320 x 138 (+12) mm



Rectangular VII 800 x 250 x 118 (+12) mm

