Fire 3.0
Roundabout – Realistic – ROBAX® 3D
Fire 3.0:
The new standard is 3-dimensional

**Roundabout**
Expanded view of the fire

**Realistic**
An experience like a campfire

**ROBAX® 3D**
3-dimensional glass-ceramic panels
Fire 3.0
Roundabout – Realistic – ROBAX® 3D
4 | SCHOTT ROBAX® IN FRONT
6 | Fire 3.0
8 | Visible warmth all around
10 | Established ROBAX® 3D geometries
12 | ROBAX® 3D panels with one bending edge
18 | ROBAX® 3D panels with two bending edges
24 | Curved ROBAX® 3D panels
30 | New ROBAX® 3D geometries
32 | Large and small formats
34 | More than two bending edges
36 | Non-parallel bending edges
38 | Technical specifications
SCHOTT is an international technology group with 130 years of experience in the areas of specialty glasses and materials and advanced technologies. With our high-quality products and intelligent solutions, we contribute to our customers’ success and make SCHOTT part of everyone’s life.

SCHOTT ROBAX® is another SCHOTT brand that is on the road to success. Over 75 million ROBAX® fire viewing panels have been sold in 35 years and have made SCHOTT a leading manufacturer of heat-resistant, transparent materials. ROBAX® is IN FRONT. With our remarkable variety of products and services, we team up with fireplace manufacturers to take advantage of market opportunities. As a joint source of inspiration for product, market, sales and distribution ideas, SCHOTT fulfills end customer wishes before they have even been expressed.
IN FRONT
FIRE VIEWING PANELS
ENGINEERED IN GERMANY
SCHOTT ROBAX®
IN FRONT

SCHOTT ROBAX® is one of the leading manufacturers of fire viewing panels in the world, having sold more than 75 million panels in 35 years. With our worldwide and comprehensive knowledge of products, markets and consumers, together with you we exploit market opportunities with our exceptionally wide range of products and services.

We see ourselves and our expertise in specialty glass as a source of inspiration for your product, market, sales and distribution ideas. We team up with you to develop product features and components even before they are demanded by end customers.

The world is multidimensional and that is how people wish to perceive it. 3D fire viewing panels from SCHOTT ROBAX® are IN FRONT when it comes to fulfilling this wish. Modern manufacturing technology provides an experience of fire that gets under the skin.
Fire 3.0:
The new demand is 3-dimensional

An angular bent 3D fire viewing panel for a broad audience. SCHOTT ROBAX®’s 3-dimensional view of the fire raises the bar. In contrast to flat panels placed at angles to one another, glazing consists entirely of one piece. Remarkable design and an expanded view of the fire will be made ready for serial production.

The sketched geometries are ideas for panel shapes that could be fabricated according to your wishes. We are glad to look into every request for special panel geometries individually.

*Today*: flat panels limit viewing angles to the fire
Tomorrow: expanded viewing angle to the fire with ROBAX® 3D
Visible warmth all around:
For everyone

Campfire romanticism meets design. With ROBAX® 3D you meet modern man halfway. The hip 3D-look turns fire into a real experience. Authenticity and exclusivity become the benchmark.

Fire 3.0:
Bring the feel of a real campfire right into your living room.
Fire 3.0:
Established ROBAX® 3D geometries

In tune with the times with a 3D-fire view for today’s audience. SCHOTT ROBAX® meets the new demand with an almost panoramic view of the fire. With panels that have one or two angles, or that are curved, SCHOTT ROBAX®’s exceptional designs provide an expanded view of the fire.

All of the geometries shown are proven formats and can be fabricated according to customer wishes. We are glad to look into every request for special panel geometries individually.
IN FRONT with a host of options:
ROBAX® 3D panels with one bending edge

Fire viewing panels with a single angle from SCHOTT ROBAX® are available with angles from 90° to 160° and in a wide range of heights and widths, including in our range of established geometries.

Dimension details on page 38.
Design it yourself:
ROBAX® 3D panels with
one bending edge

Give your creativity free rein and discover the possibilities of just one bending edge. Sketch your idea for a stove around the ROBAX® 3D panel on the grid!

Use the drafting paper and let your imagination fly.

Your sketch could become reality.
Two sides:
Endless possibilities

Almost no boundaries will limit your ingenuity when it comes to fire viewing panels with one bending angle. Stoke your creativity!
Two bending edges:  
Expand your viewing angle

Fire viewing panels with two angles from SCHOTT ROBAX® significantly expand your viewing angle of the fire yet again. Panels in a wide range of lengths, widths and heights expand the 3D view of the fire and give rise to a campfire feel.
Design it yourself:
ROBAX® 3D panels
with two bending edges

Your inventiveness is requested – sketch your idea for a new stove model with a viewing panel that has two bending edges. You define the height, depth and width based on the depicted panel. Let our examples stoke your imagination …
Two bending edges, three glass-ceramic surfaces: A plethora of possibilities

Fire viewing panels with two bending edges, with small or large bending angles make almost unlimited design options possible.
All around:
The range of possibilities

The radii of curved fire viewing panels from SCHOTT ROBAX® is wide ranging. This is also true for the heights and bend radii of the panels. With these diverse design options SCHOTT ROBAX® achieves an optimum 3D-fire view.

More information on our geometries are listed on page 38.
Design it yourself:
Stoves with a curved ROBAX® 3D panel

Sometimes it’s got to be well rounded. Take the opportunity to design a new type of stove featuring a curved viewing panel. Opening angle and panel height are your decision, or get started with the panel on the grid to the left. Your imagination is the basis for ROBAX® 3D design.
Well rounded:
Fulfilling fireplace requests

One or more ROBAX® 3D panels in one stove, more or less curvature – the options for curved fire viewing panels are as numerous as the sizes and shapes that can be conceived for stoves.
Fire 3.0:
New ROBAX® 3D geometries

People are different and so are their desires. The new formats from SCHOTT ROBAX® allow you to fulfill almost all design wishes for your fire viewing panels and thereby for stoves.

Particularly small or large glass surfaces, glass formats with up to four bending edges, formats with non-parallel angles – it’s all possible.
Our record:
One-piece glazing up to 1,930 mm stretched length

Whether very big or quite small – fulfill unusual and special glazing wishes with ROBAX® 3D. Attractive design and an expanded view of the fire are also possible for small glass surfaces. The production technique of ROBAX® allows for new dimensions in design, in almost any size.

New glazing options give rise to new ideas in design and form.
Stoke your inspiration.
Graceful and new:
More than two bending edges

ROBAX® 3D makes glass formats with up to four parallel bending edges possible. A new glass-shaping process bestows a unique grace on every stove. Make your customers’ wishes for an authentic and elegant experience of fire come true – in serial production.
Very distinctive:
Non-parallel bending edges

Glass-ceramic panels from SCHOTT ROBAX® with non-parallel angles are as distinctive as your customers. No right angles, no parallel glass surfaces – customers will feel that they own something unique. Together we can make it happen.
Available shapes

Curved and angular bent ROBAX® 3D panels are available in various established versions in thicknesses of 4 and 5 mm.

If you need a custom-tailored solution, contact us early to find out which models and shapes are available. You can thus help us reduce delivery times and costs. For curved ROBAX® 3D panels, we recommend selecting panels from our standard product range. These have shorter delivery times.

All geometric tolerances are determined with a two-dimensional slot gauge. This is a level plastics gauge with a defined slot. The ROBAX® 3D panel must fit into the slot smoothly.

Special becomes standard
ROBAX® 3D panels with wide angle

For high flames
ROBAX® 3D panels with right angle, but special panel heights
### 1 angle

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Measure</th>
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</thead>
<tbody>
<tr>
<td>h panel height</td>
<td>350 – 500 mm</td>
<td>230 mm</td>
<td>900 mm</td>
<td>$h \leq 500 \text{mm}$</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>$500 &lt; h \leq 650 \text{mm}$</td>
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<tr>
<td>$\ell_1$ long side</td>
<td>400 – 800 mm</td>
<td>60 mm</td>
<td>1,100 mm</td>
<td>$\ell_1$</td>
</tr>
<tr>
<td>$\ell_2$ short side</td>
<td>100 – 500 mm</td>
<td>60 mm</td>
<td>590 mm</td>
<td>$\ell_2$</td>
</tr>
<tr>
<td>$\alpha$ bending angle</td>
<td>90°</td>
<td>90°</td>
<td>160°</td>
<td>$\alpha$</td>
</tr>
</tbody>
</table>

Without decoration | Non-standard sizes on request | All dimensions are exterior
Tolerances according to technical delivery specifications
2 angles

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Measure</th>
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</table>
| h panel height                 | 250–500 mm   | 230 mm  | 800 mm  | h ≤ 500 mm
500 < h ≤ 650 mm          |
| \(l_2\) center section length  | 200–400 mm   | 170 mm  | 900 mm  | \(l_2\)               |
| \(l_1, l_3\) side section length | 100–210 mm  | 60 mm   | 420 mm  | \(l_1, l_3\)          |
| \(\alpha\) bending angle       | 90°, 135°    | 90°     | 160°    | \(\alpha\)            |

Without decoration | Non-standard sizes on request | All dimensions are exterior
Tolerances according to technical delivery specifications
### Curved

<table>
<thead>
<tr>
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<th>Standard</th>
<th>Measure</th>
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<tr>
<td>h panel height</td>
<td>200 – 600 mm</td>
<td>Max. 800 mm</td>
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<td>h ≤ 500 mm; 500 &lt; h ≤ 650 mm</td>
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<td></td>
<td></td>
<td>h &gt; 650 mm</td>
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<tr>
<td>( \ell_A ) arc length</td>
<td>300 – 700 mm</td>
<td>Max. 1.100 mm</td>
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<tr>
<td></td>
<td></td>
<td>( \ell_A \leq 500 ) mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>( \ell_A &gt; 500 ) mm</td>
</tr>
<tr>
<td>r bending radius</td>
<td>350 – 650 mm</td>
<td>Min. 225 mm</td>
</tr>
</tbody>
</table>

Without decoration | Non-standard sizes on request | All dimensions are exterior
Tolerances according to technical delivery specifications
ROBAX® 3D panels: High-grade decorating

We develop our own decorative colors.

They are resistant to high temperatures and stand up to daily use. Materials usually expand when heated, yet ROBAX® fire viewing panels display almost zero expansion. Therefore only decorative colors with similar characteristics and that do not flake off can be used. The originally functional character of decoration to conceal hinges and other retaining elements is increasingly yielding to aesthetic aspects. Ideally, the design of the panel and the panel decoration harmonize with fireplace and stove fronts.

We are glad to put your decoration requests to testing, since technical considerations must be taken into account for the colors employed and the size of the surface to be decorated.

Choose your favorite hue from ten subdued colors.

More decorative colors (e.g. with metallic effect) are available upon request.

The colors depicted are not binding. We would be happy to send you an original color sample on request.
Instructions for installation of ROBAX® fire viewing panels

General information

1. Even under thermal load, ROBAX® glass-ceramic panels show near-zero thermal expansion. For this reason the different thermal expansion of the various framing materials in proportion to the ROBAX® panel must be taken into account in the design of the entire heating device.

2. Additionally, the limitations of manufacturing tolerances of the frame and glass-ceramic panel should be considered.

3. Contact pressure that leads to bending stress on the panel must be eliminated. This can be achieved, for example, by limiting torque, or with an arrester which limits screw-in depth.

4. Since slight twisting of the frame construction cannot be controlled, a thermally stable, permanently elastic seal (e.g. fiberglass reinforced or mineral-fiber reinforced) should be used to prevent the frame coming in contact with the ROBAX® panel.
5. If the frame is required to touch the glass-ceramic panel due to design reasons, then the contact pressure must be evenly distributed (never at single points) over the circumference of the panel.

6. The panel must not come into direct contact with metal frame parts. It is recommended to use a thermally stable, permanently elastic seal.

7. Seal manufacturer instructions must also be followed, in particular with regard to contact pressure of materials.

8. During installation, it is essential to protect the glass-ceramic panel, specifically the edges from potential damage (blows, bumps and scratches).

9. If a high-temperature-resistant silicone is applied to the circumference of the panel, the elastic limit of the silicone must be considered. Due to the excellent bonding properties of glass-silicone, exceeding the limit can lead to cracked or broken windows.
Frameless installation

The main hazards that could arise when installing ROBAX® glass-ceramic doors without a frame are mechanical stresses (bending stress, blows, bumps etc.). A concealed substructure features a frameless design onto which the ROBAX® glass-ceramic panel is mounted, while also covering the front side. Therefore, the panel edges are not surrounded by a protective frame and may be exposed to additional mechanical stress. Other essential general instructions that remain applicable and must be taken into account in the design of a frameless door can be found under the “General information” section.

1. The weight of the panel should be supported by a sufficiently dimensioned frame. The pressing forces transmitted from the frame to the glass-ceramic must be absorbed by a suitable and temperature-stable material that is also flexible (e.g. glass-fiber cord between hinge/handle and window).

2. Pressure points, caused for example by the weight of the window „resting“ on the screws/lead-throughs, should be kept to a minimum; e.g. with threaded sleeves which at the same time prevent unacceptable glass-metal contact.
3. Bore diameter in the ROBAX® panel must allow for thermally-induced expansion of metal components (lead-throughs, mounting rails etc.). Additionally, bore edges must be of sufficient quality and be beveled on both sides. Panel edges should be ground.

4. Closing the door must not generate any additional forces (lever) on the hinged side.

5. Hinges must not jam when closing, since the resisting force produced by closing or opening the door could transmit excessively high stress to the glass-ceramic.

6. Bending forces, which are exerted when the panel is latched, depend largely on the position of the bore holes for the latching mechanism and the pressing-on force needed for latching, and which is exerted by the user. Rigidity is not an issue, provided that the required pressing-on force exerted on the panel does not exceed 40 N.

7. Instructions for the location of bore holes can only be provided when the specific panel and design are known.