

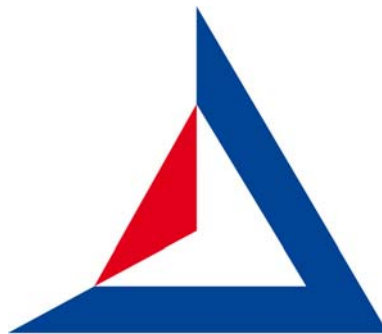
**Technical**

**Information**

**SIGLA<sup>®</sup> Motive**

SGX

Digital Print



**FLACHGLAS  
WERNBERG**

**TI WER 014 E**

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## Technical Information

### SIGLA® Motive SGX Digital Print

#### In general

SIGLA® Motive SGX (SentryGlas® Expressions™) is a laminated safety glass according to DIN EN ISO 12543 with a digitally photo printed (up to 1440 dpi) PVB interlayer. The colours and the interlayer harmonize in a way that all the security characteristics are fully maintained! This opens up a wide range of applications and possibilities.

The designs can be made available as graphic file (MAC/PC), slide or original version, coloured or black/white.

As background we can offer a selection of clear, white-translucent and soft white coloured interlayers, in combination with toughened glass (ESG) or heat strengthened glass (TVG) and additional screen print, but also countless other RAL or NCS colours.

The design can also be printed with the colour „white“.

The quality of the results is brilliant. Due to the close contact to our graphic designers we make sure that every customer wish can be realized to the optimum. Anyway, we will prepare a print proof for customers' approval.

SIGLA® Motive SGX can also be applied on double glazed units which are meant for the interior as well as the exterior use. It can be combined with various other basic glass types. Ageing tests have shown a good colour stability and brilliance of the pictures (please see page 4).

The maximum dimension of one design unit is approximately 2390 mm x 4270 mm<sup>1</sup>. A large-size poster, for example, consisting of several single design units can be put together to one overall picture. On request, our graphic designers will certainly work on these single design units (tiling) in order to obtain the best possible registration result. The glass thickness depends on the statically requirements.

<sup>1</sup>larger design on request

**SentryGlas®** Expressions™ is a registered trademark of DuPont

## Requirements on the illustrations

### Artworks

We would appreciate your artworks to be prepared to its optimum with regard to resolution, colouring and dimensions; otherwise we have to charge you with costs that might arise for additional graphical rework. If a new artwork is necessary, we will discuss it with you before.

The photographical artworks should preferably be transparent (min. 100 mm x 125 mm). Sometimes a material with 35 mm is sufficient; however, a larger artwork ensures a better picture quality.

From the original artworks of pictures or works of art it is necessary to either take digital photos or to scan them with high-resolution as well as to adjust the colours.

### Colour samples

We recommend to provide us with an original colour sample with detailed colour specification, preferably Pantone colours.

### File format

All special fonts have to be integrated.

Adobe Photoshop	(MAC/PC)	EPS, TIFF
Adobe Illustrator <sup>2</sup>	(MAC/PC)	AI, EPS (with integrated fonts)
Adobe Freehand <sup>2</sup>	(MAC/PC)	editable EPS

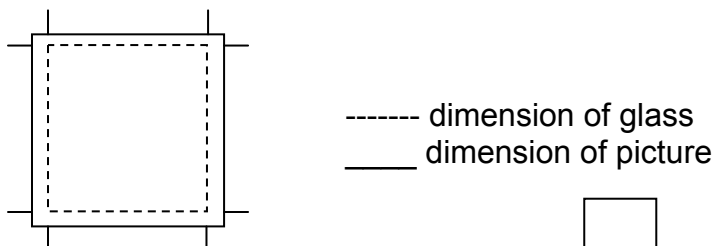
### Availability of data

CD / DVD	(MAC/PC)
Http / FTP	upload / download from a server
E-mail	attachment up to 10 MB

<sup>2</sup>fonts to be converted

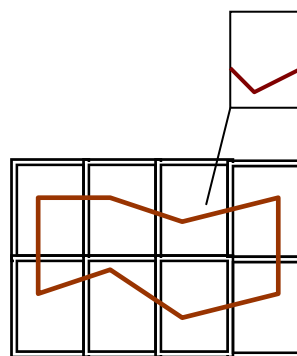
### Scaling, picture resolution, file size

For easier handling the files should ideally be scaled 1:10. However, we also accept other scaling. In general, image files need to have a minimum resolution of 150 dpi - 200 dpi (60-80 pixel/cm) of the final picture. The size of bitmap files should be between 50 to 250 MB. The higher the picture resolution, the better it is. The design has to be created peripherally 10 mm larger than the final glass dimension will be. Register marks are positioned outside of the design and mark the size of the glass!



### Large picture screens

Large picture screens are realized by assembling smaller glass panes. Please note the necessary joints between the single glass panes in order to avoid direct contact between them.



### Degree of transparency and maximum size of the interlayers

- |                      |   |
|----------------------|---|
| 1. Clear             | Identical <sup>3</sup> design on both sides, colours not opaque<br>The final single picture must not exceed a dimension of 2,390 x 4,270 mm <sup>2</sup>  |
| 2. Soft white        | The contour in the background is still perceptible<br>The light transmission is approx. 80%<br>The reverse side appears diffuse.<br>The final single picture must not exceed a dimension of 1,800 x 3,800 mm <sup>2</sup> resp. 2,300 x 3,500 mm <sup>2</sup> . |
| 3. White translucent | The contour in the background is no longer perceptible<br>The light transmission is approx. 60%<br>Reverse side appears dull white<br>The final single picture must not exceed a dimension of 1800 x 3800 mm <sup>2</sup> resp. 2300 x 3500 mm <sup>2</sup>     |
| 4. Coconut-white     | Profiles are not visible. The light transmission is approx. 30%.<br>For indoor use only. Different pictures on each side possible.<br>Max. size of the single unit: 1,800 x 3,800 mm <sup>2</sup> or 2,300 x 3,500 mm <sup>2</sup> .                            |

<sup>3</sup> mirror-inverted view on reverse side

## Transparency degree of the colours

The opacity of the colours is between 40% and 45%. This corresponds to a transparency of ca. 55% to 60%.

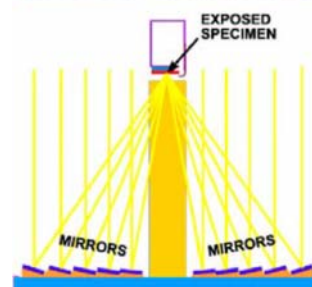
## Colour resistance

Tests have confirmed a very good colour resistance and light resistance.

Colour resistance or „light resistance“ are expressions from the printing industry in order to describe the way pictures can „fade“. The main reason of the „fading“ is exposure to light, humidity, pollution as well as smoke, ozone, etc.

**SIGLA® Motive SGX** is a laminated safety glass with a printed PVB interlayer, thus the colours are protected against humidity and pollution. The PVB interlayer itself offers protection against UV radiation. The special colouring pigments have in itself such a stability that they are even used in varnishes exposed to weathering for the architectural and autoMotive sector.

In order to examine the light resistance, some **SIGLA® Motive SGX** test panes were placed into a special device extremely focusing the sunlight. The desert of Arizona (USA) proved to offer an ideal surrounding to simulate the required extreme conditions (see picture). Up to now this continuously performed test has proved an equivalent of 10 years light resistance.



### Testing conditions:

Luminous source: concentrated insolation, desert Arizona (USA)

Test standard: ASTM G90 cycle

Fading criterion:  $\Delta E$  calculated, by use of CMC<sup>4</sup> (1:1) formula

Measuring result:  $< 5 \Delta E$  over a period of 10 years

The measuring results show that the pigments only insignificantly tend to fade what makes it unnoticed to a viewers common examination unless he is parallel shown a new (not weather-beaten) reference sample.

<sup>4</sup> Colour Measurement Committee

# Technical Information

## SIGLA® Motive SGX Digital Print

### Glass types

Any type of glass and glass combination which is also applicable for a normal SIGLA® laminated safety glass respectively a SIGLA® laminated unit of DELODUR® can be used.

The edges of the glass have to be protected against:

- permanent humidity and pollution
- incompatible materials (sealing materials have to be agreed on with the supplier of the sealing compounds)

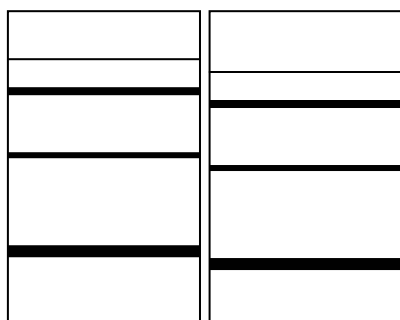
The standard edge finishing is KGN according to DIN 1249-11 (polished). In order to guarantee an ideal colour picture we recommend to use OPTIWHITE® glass which is poor in iron.

### Tolerances

Offset tolerances for SIGLA® Motive glass consisting of 2 x toughened glass (ESG) or 2 x heat strengthened glass (TVG): 2 mm  
(The edge finishing is only possible on the single glass panes)

Tolerances in the position of the design in the glass pane: +/- 3 mm

Registration tolerances for „tiling“: 0,35 %  
(design of one glass coincides with the design of the other glass)



We are working according to the „Richtlinie zur Beurteilung der visuellen Qualität von Glas für das Bauwesen“ (guideline for evaluation of the visual quality of glass for architectural glazing) especially for back lighted glass panes, as well as according to the glass tolerances applied for SIGLA®!

Please also see the current glass manual of the Flachglas MarkenKreis GmbH.

This technical information

superseeds all previous editions

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