

**SCHOTT**  
glass made of ideas



**GOETHEGLAS  
RESTOVER®  
TIKANA®**

Glass for Restoration

SCHOTT is a leading international technology group in the areas of specialty glass and glass-ceramics. With more than 130 years of outstanding development, materials and technology expertise we offer a broad portfolio of high-quality products and intelligent solutions that contribute to our customers' success.

SCHOTT works closely with architects and designers to extend the boundaries of design and create new opportunities for building culture – in terms of design and space, indoors and outdoors, aesthetics and functionality. That's what makes SCHOTT a qualified partner for architecture.

**Cover:** The windows of the German Historical Museum located in a former arsenal in Berlin are special energy-efficient windows including RESTOVER® Glass for Restoration.

**Top right:** The "Goldene Waage" restoration project in Frankfurt's historical city center used the irregular-surfaced TIKANA® and RESTOVER® light glass.

**Bottom right:** TIKANA® was used to authentically glaze the historical bands of windows in the former Schocken department store in Chemnitz.

SCHOTT's Glasses for Restoration are the best choice for the faithful restoration of historical buildings from various eras – mimicking the appearance of the original glazing materials – GOETHEGLAS for buildings from the 18th and 19th centuries, RESTOVER® glass for buildings dating from the early 1900s and TIKANA® glass for buildings from the classical modern period – these glasses also meet any number of contemporary needs because of the wide variety of processing options available, from UV protection to thermal insulation.



**“Goldene Waage”  
building, Frankfurt  
am Main, Germany**  
Photo: © SCHOTT

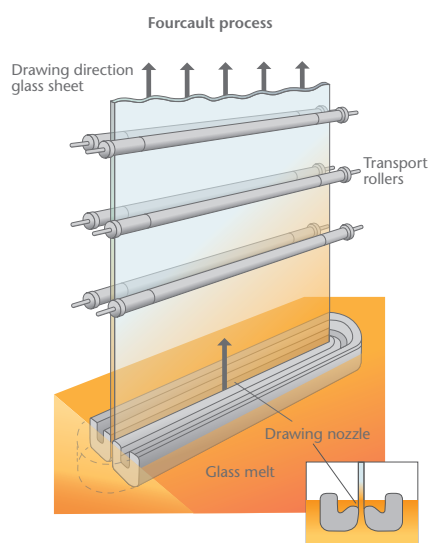
**Schocken  
department store,  
Chemnitz, Germany**  
Photo: Michael Jungblut



# Accurate in style and true to the times

## Historical in form, innovative in function

Restoring historical monuments is a delicate task in which every aesthetic nuance is important. SCHOTT's Glasses for Restoration provide the wide range of materials that architects need to do the job right. Manufactured using the traditional Fourcault process, the look of the glass is based on historical window glasses from different eras.



### Production process

The traditional Fourcault process vertically draws glass from a liquid melt upwards through a nozzle and into a drawing shaft. At the end of the shaft, the glass is cut to size.

SCHOTT glass for restoration exhibit striations typical for this production process. The glass also has varying degrees of waviness depending on the product.

These dynamic surfaces make the glass the ideal choice for faithfully restoring windows and doors in historical buildings and monuments of different eras.

### SCHOTT Glass for Restoration

- GOETHEGLAS for buildings from the 18th and 19th centuries
- RESTOVER® glass for buildings from the early 1900s
- TIKANA® glass for buildings from the classical modern period
- ETA certification according to standards EN 12150-2, EN 14179-2, EN 14449 and EN 1279-5
- Many processing options to make standard-compliant building products (e.g. as toughened safety glass, laminated safety glass, laminated glass and insulating glass units)

TIKANA® was used to renovate the Van de Velde Building of the Bauhaus-University in Weimar.

Photo: © SCHOTT





Orangery Schwerin Castle, Schwerin, Germany

Photo: © SCHOTT

### GOETHEGLAS

GOETHEGLAS is a colorless, drawn glass with the irregular surface characteristic of window glass common to the 18th and 19th centuries. It can also be used to protect precious, leaded glazing from the elements and other adverse environmental conditions.



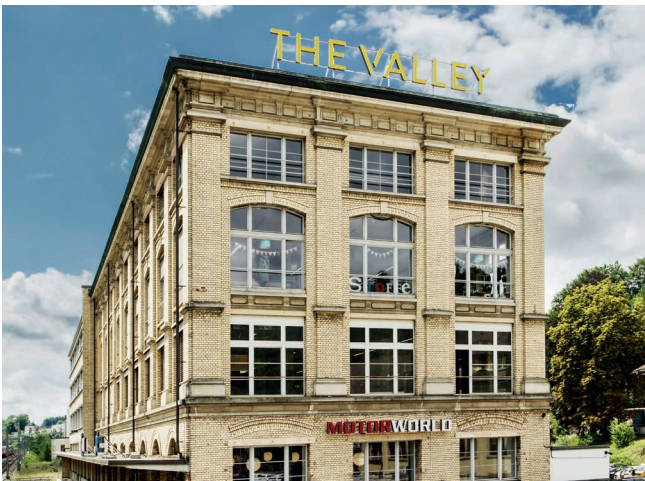
Château de l'Aile, Vevey, Switzerland

Photo: Vogel Fensterbauer AG,  
Goldach, Switzerland

### RESTOVER®

RESTOVER® resembles the window glass manufactured at the turn of the century. Its minimal thickness makes it easy to install in historical window frames and fittings.

While the surface of RESTOVER® light glass is slightly less irregular, RESTOVER® plus glass has a much more irregular surface structure and resembles mouth-blown glass.



Maggi-Areal, Kemptthal, Switzerland

Photo: Carsten Costard

### TIKANA®

TIKANA® glass is particularly suited for buildings dating from the Bauhaus style. Its slightly irregular surface harmonizes with buildings from the classical modern period. Like the other SCHOTT glass for restoration, TIKANA® offers every opportunity to link historical charm with modern physical building properties.



Bauhaus-University Weimar – The Brendel Studio using SCHOTT RESTOVER® laminated glass

Photo: © SCHOTT

## SCHOTT Glass for Restoration

# For monument authenticity in step with the times

SCHOTT enhances restoration glazing by integrating proven modern solutions, such as heat insulation-, sun- and UV-protection, secure overhead mounting, burglar resistance, soundprotection, which were unknown at the time of original construction.

Elements of these solutions include coatings and films, inert gas fillings between the window panes and a number of different spacers for insulating glass units, colored or otherwise. For example, an assembly made of TIKANA® glass provides heat insulation and sun protection without detracting from the appearance of the Van de Velde Building at the Bauhaus-University.

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# SCHOTT Glass for Restoration

## GOETHEGLAS, RESTOVER<sup>®</sup>, TIKANA<sup>®</sup>

### Technical Data Sheet

#### Production and usage

##### SCHOTT Glass for Restoration

- Is created specifically as glazing that corresponds to the historical epoch of a building.
- Offers the typical surface characteristics of glass from different historical epochs while also capable of being processed as state-of-the-art insulating and laminated glass.
- Is produced using the traditional Fourcault process. The glass is drawn vertically upwards from a liquid melt through a nozzle into a drawing shaft. At the end of the drawing shaft, the glass is cut to sheet size.
- Has the striations typical for the manufacturing process. The glass also has varying degrees of waviness depending on the product.
- Is the right choice for the faithful restoration of windows and doors in historical buildings and monuments from different epochs.
- Is also suitable for glazing historical display cases and furniture as well as historical mirrors.

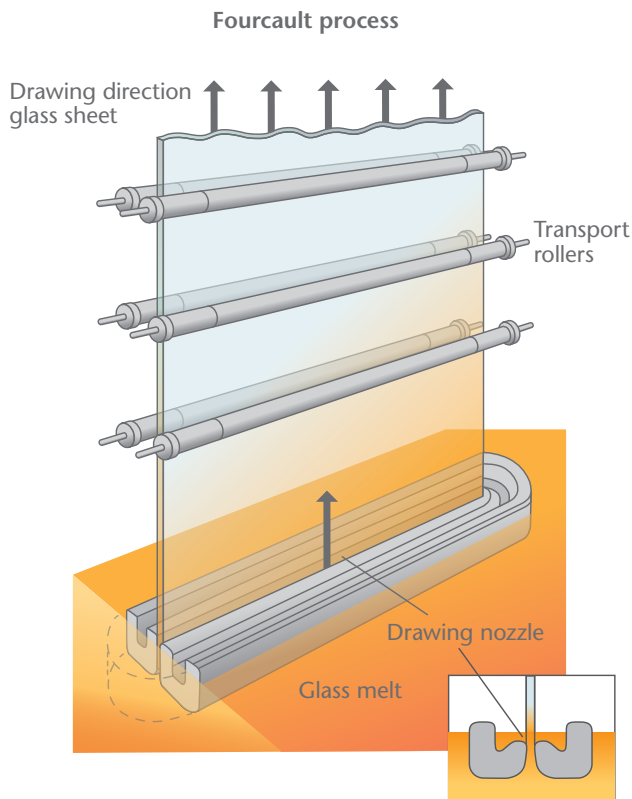
#### Processing

##### 1. Are there specifications and structural approvals for SCHOTT glass for restoration?

The physical, chemical and technical properties of all SCHOTT glass for restoration are described in specifications. In addition, all SCHOTT glass for restoration has European Technical Assessment ETA-12/0159 from the German Institute for Construction Technology (DIBT), i.e. depending on the glass thickness, it can be processed into standard building products such as toughened safety glass, laminated safety glass and insulating glass.

##### 2. What needs to be considered when cutting the glass?

Due to a possibly higher residual cooling stress and larger distortions than with floated glass, cutting must be carried out with an expansion cut while taking into account specific cutting wheel angles and cutting pressures.



##### 3. Processing options

- Use of standard PVB films for laminated glass
- Use of thicker films to compensate for thickness fluctuations
- Use of special UV or IR filter films to meet increased light requirements
- Use of sound insulation films to reduce noise pollution in buildings
- Outer pane of insulating glass available as glass for restoration
- Use of sun protection layers
- Option to produce insulating glass with an overall thickness of approx. 10 mm (3/8")

# SCHOTT Glass for Restoration

## GOETHEGLAS, RESTOVER<sup>®</sup>, TIKANA<sup>®</sup>

### Technical Data Sheet

Glass type	Thickness* mm (inches)	Thickness tolerance mm (inches)	Standard dimensions* mm x mm (inches x inches)
GOETHEGLAS	4.5 (9/50")	± 0.50 (0.02")	2,100 x 1,500 (82.7" x 59.1")
			2,400 x 1,500 (94.5" x 59.1")
			2,700 x 1,500 (106.0" x 59.1")
RESTOVER <sup>®</sup>	2.0 (1/16")	± 0.25 (0.01")	1,600 x 1,400 (63.0" x 55.1")
			2,100 x 1,400 (82.7" x 55.1")
	2.75 (1/100")	± 0.25 (0.01")	1,000 x 1,500 (39.4" x 59.1")
			1,600 x 1,500 (63.0" x 59.1")
	4.0 (5/32")	± 0.25 (0.01")	2,100 x 1,500 (82.7" x 59.1")
			2,400 x 1,500 (94.5" x 59.1")
RESTOVER <sup>®</sup> light	2.75 (1/100")	± 0.25 (0.01")	2,700 x 1,500 (106.0" x 59.1")
			1,000 x 1,500 (39.4" x 59.1")
			1,600 x 1,500 (63.0" x 59.1")
	4.0 (5/32")	± 0.25 (0.01")	2,100 x 1,500 (82.7" x 59.1")
			2,400 x 1,500 (94.5" x 59.1")
			2,700 x 1,500 (106.0" x 59.1")
RESTOVER <sup>®</sup> plus	2.95 (3/25")	± 0.35 (0.01")	1,000 x 1,500 (39.4" x 59.1")
			1,600 x 1,500 (63.0" x 59.1")
			2,100 x 1,500 (82.7" x 59.1")
TIKANA <sup>®</sup>	4.0 (5/32")	± 0.25 (0.01")	2,100 x 1,500 (82.7" x 59.1")
			2,100 x 1,700 (82.7" x 67.1")
			2,400 x 1,500 (94.5" x 59.1")
			2,400 x 1,700 (94.5" x 67.1")
			2,700 x 1,500 (106.0" x 59.1")
			2,700 x 1,700 (106.0" x 67.1")
	6.0 (1/4")	± 0.50 (0.02")	2,100 x 1,500 (82.7" x 59.1")
			2,100 x 1,700 (82.7" x 67.1")
			2,400 x 1,500 (94.5" x 59.1")
			2,400 x 1,700 (94.5" x 67.1")
			2,700 x 1,500 (106.0" x 59.1")
			2,700 x 1,700 (106.0" x 67.1")

\*Other dimensions on request.

# SCHOTT Glass for Restoration

## GOETHEGLAS, RESTOVER<sup>®</sup>, TIKANA<sup>®</sup>

### Technical Data Sheet

#### GOETHEGLAS

GOETHEGLAS is a colorless, drawn glass with the distinctive, irregular window glass surface typical of the 18<sup>th</sup> and 19<sup>th</sup> centuries. It is also suitable as exterior protective glass, e.g. to protect valuable lead glazing from the impact of the weather and the environment.

#### RESTOVER<sup>®</sup>

RESTOVER<sup>®</sup> resembles window glass manufactured around the turn of the last century. Its low thickness facilitates installation in historical window frames and profiles. RESTOVER<sup>®</sup> light and RESTOVER<sup>®</sup> plus can provide a less or more textured surface variant resembling traditional blown glass depending on individual requirements.

#### TIKANA<sup>®</sup>

TIKANA<sup>®</sup> is particularly suitable for buildings in the Bauhaus style. Its slightly irregular surface blends harmoniously into classical modernist buildings. Like the other SCHOTT glass for restoration variants, TIKANA<sup>®</sup> enables an historical look to be integrated into state-of-the-art structural features.



Babelsberg Palace, Babelsberg, Germany



German Historical Museum, Berlin, Germany



Maggi-Areal, Kemptthal, Switzerland

