

# WIRED GLASS

## Polished Wired Glass

Wired glass is produced by carefully embedding wiremesh or metal wires into glass.  
The wire is available in three types:diamond mesh,cross mesh and straight parallel lines.

### Applications

- Exteriors and interiors of general constructions
- Doors and windows of buildings where fire protection is required
- Locations where fallout protection is required
- Locations where shatter proof is required
- Shop window
- Smoke barrier (Polished Parallel Line)



Sapporo community Dome in Hokkaido,Japan

## Polished Wired Glass



Polished Diamond Mesh (PWH)



Polished Cross Mesh (PWC)



Parallel Line (PWL)

# WIRED GLASS FOR INTERIOR

This wired glass is produced by carefully embedding diamond wire mesh into glass. Even if the glass breaks, the wire will hold it in place. This is 5.2mm thick, considerably thinner than conventional wired glass (usually 6.8mm or 10mm).

**\*This product is not fire resistant.**

### Applications

Interiors of houses and commercial facilities such as restaurants and shops as windows, doors, and furniture



Polished Diamond Mesh (PWH)

## Types and Specifications

Type		Product Code	Standard Thickness (mm)	Size (inch)
Polished Wired Glass	Diamond Mesh	PWH5.2	5.2	96×72 130×84

## Glass Data Monolithic Glass

Type	Product Code	Standard Thickness (mm)	Optical Performance							Thermal Performance			
			Visible Light			Solar Radiation		UV Transmittance (%)	Ug Value	SC	Solar Radiation Heat Acquisition Rate $\eta$		
			T <sub>rn</sub> (%)	Ref (%)	In	T <sub>rn</sub> (%)	Ref (%)						
Diamond Mesh	PWH5.2	5.2	85.2	8.7	8.7	78.1	8.0	13.9	58.8	5.9	{5.1}	0.94	0.83



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# WIRED GLASS

## Polished Wired Glass



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Features and Advantages

Fire resistance

The glass is formulated for fire protection performance. In case of fire, the glass cracks but broken pieces tend to remain in the sashes rather than fall out, restricting the spread of flame and smoke.

\* Except Polished Parallel Line

Fallout resistance

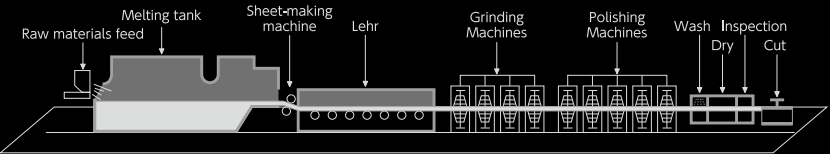
When the glass is broken by the impact, fragments tend to remain in the sashes rather than fall out. The chance of shattering is therefore less than that of float glass.

Crash prevention

Wires embedded in glass will help to show appearance of glass compared to ordinary float glass, thus prevent from crashing into the glass.

Unique Manufacturing Process

The Duplex Process is the world’s only facility



Central Glass Products' polished wired glass is produced by a unique manufacturing method called the Duplex Process, in which both surfaces of the glass are simultaneously ground and polished in one continuous operation. This process makes it possible to create a flat and smooth surface.



Duplex grinding equipment



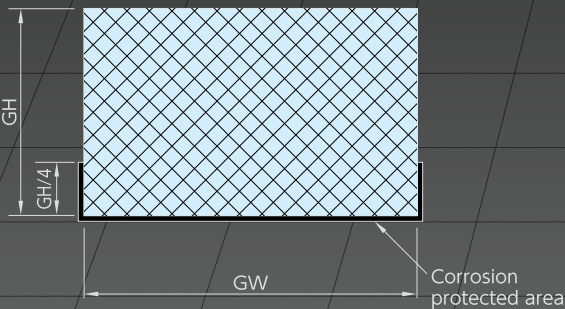
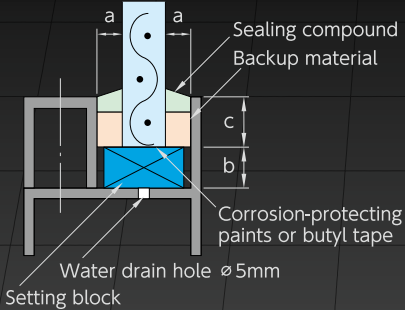
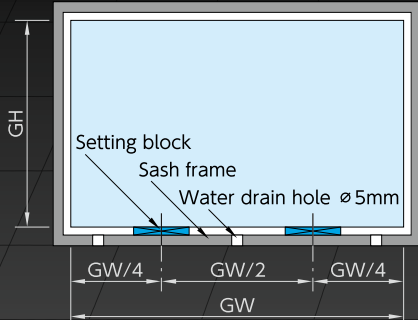
Near duplex process rolls

Standard Glazing Procedure

- Use a superior elastic sealing compound (polysulfide or silicone).
- Three water drain holes (5mm in diameter) must be provided at the sash bottom for draining rainwater or condensation quickly.
- Protect edges of the wired glass from corrosion with butyl tape or corrosion-protecting paints in accordance with the standard glazing diagrams.
- Cut wired glass units carefully.
- Use polyethylene foam or chloroprene rubber as a backup material.
- Provide setting blocks of chloroprene rubber (90° hardness) at two places along the bottom edge.

Standard Glazing Diagrams

Curtain Wall Using Sealing Compound



Explanation of symbols  
GH : Glass height    GW : Glass width  
a : Face clearance    b : Edge clearance    c : Bite

Minimum Values for Clearance and Bite (mm)

Standard Thickness (mm)	Curtain Wall Using Sealing Compound		
	Face Clearance	Edge Clearance	Bite
	a	b	c
6.8	5	7	10
10	5	8	12

⚠ Safety Precautions

The building designer is responsible for incorporating specific characteristics of wired glass when determining the applicable locations and area for the glass.

Follow the precautions stated in this catalog.

- The primary feature of polished wired glass (diamond mesh and cross mesh) is its fire resistance. These glass products are not safety glazing materials, and should not be used as such or in locations where human impact is possible or where safety glazing is required. However, there are some use of polished wired glass (diamond mesh and cross mesh) if building regulations require or permit it for such application.

⚠ Design and Installation Precautions

- When the wired glass is cut, the exposed metal wires are bent and hairline cracks can occur along the edges, decreasing strength.
- Exposed metal wires along the edges of the glass can be rusted by rainwater or condensation. Wired glass can be damaged as rust spreads.
- Maintain an ample distance between the surface of the glass and thick curtains, shades, lockers, etc.
- The glass surface should not be painted or coated with paper.

- The manufacturer of the laminated glass using polished wired glass is responsible for certifying the fire protection performance in connection with the glazing method.
- To prevent accidental falls, do not step on the glass unit when installed in a skylight.
- When tested under fire test conditions, the performance of polished wired glass varies depending on the glass size and glazing method. For the details of testing conditions, refer to Underwriters Laboratories Inc./UL9.
- The glass surface should not be exposed to direct currents of air from air-conditioning units.
- Calculate and carefully consider thermal values to avoid thermal cracking when a shading or decorative film is put on the glass surface.
- The maximum width of Parallel Line is 2,438mm. Where larger sizes are required, install crosswise.

Types and Specifications

Type		Product Code	Standard Thickness (mm)	Size (inch)
Polished Wired Glass	Polished Diamond Mesh	PWH	6.8	96×72
		PWH10	10.0	100×78
	Polished Cross Mesh	PWC	6.8	130×78
	Polished Parallel Line	PWL	6.8	130×84
				150×96

Glass Data      Monolithic Glass

Type	Product Code	Standard Thickness (mm)	Optical Performance						Thermal Performance				
			Visible Light			Solar Radiation		UV Transmittance (%)	Abs (%)	Ug Value		SC	Solar Radiation Heat Acquisition Rate $\eta$
			Trn (%)	Ref (%)		Trn (%)	Ref (%)			w/m <sup>2</sup> ·K	{kcal/m <sup>2</sup> ·h·°C}		
				Out	In								
Polished Diamond Mesh	PWH6.8	6.8	83.7	8.3	8.3	74.9	7.4	17.7	54.4	5.8	{5.0}	0.92	0.81
	PWH10	10	82.1	8.1	8.1	70.0	7.1	22.9	48.4	5.7	{4.9}	0.88	0.78
Polished Cross Mesh	PWC6.8	6.8	80.4	8.5	8.5	71.9	7.6	20.5	52.2	5.8	{5.0}	0.90	0.79
Polished Parallel Line	PWL6.8	6.8	87.3	8.0	8.0	78.1	7.2	14.7	56.7	5.8	{5.0}	0.94	0.83

Certifications

JIS R3204  
UL9,10B,10C  
CUL9,10B,10C  
EN 572

Standards and Performance

Central Glass Products' polished wired glass (diamond mesh and cross mesh) conforms to the fire performance test specified by the Japanese Industrial Standard (JIS R 3204) and the Building Code of Japan. They are also certified in the U.S.A., Canada, and Europe.