HAVER & BOECKER

DIE DRAHTWEBER

ARCHITECTURAL WIRE MESH.

BUILDING ENVELOPE AND NOBLE SUN PROTECTION.

EFFECTIVE SUN PROTECTION.

TRANSPARENCY FOR THE BEST INDOOR CLIMATE.

Exterior sunlight protection with architectural mesh is significantly more effective compared to interior systems. In addition, the excellent protective effect is combined with a whole series of additional advantages and, not least, provides financial benefits by reducing energy costs for air conditioning.

Incident solar radiation is optimally filtered and the warming of the façade significantly reduced.
The transparency of the mesh enhances the façade's optical effect, and at the same time maintains the look of the building from both inside and outside. Particularly with glass façades, this effect opens up many additional design possibilities.

Transparent architectural mesh elements effectively combine sun protection with superb design possibilities.

The open geometry of the architectural wire mesh preserves the view on the outside world.

With puristic aesthetics, the shimmering metallic effect of the stainless-steel mesh in sunlight brings out the overall architectural concept.

Benefits at a glance:

Effective shading

The structure of the architectural wire mesh provides effective shading, particularly with a high angle of sunlight incidence in summer. Solar energy can be used to reduce heating costs in winter with a low angle of sunlight incidence.

Natural ventilation

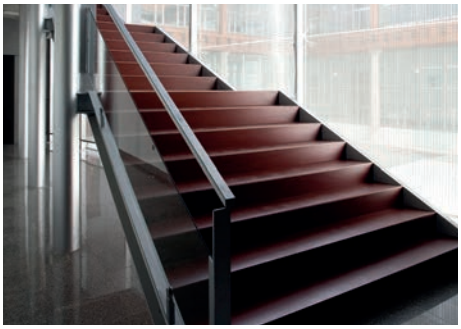
Due to its open area, stainless-steel mesh guarantees good air circulation and prevents warm air from accumulating in front of the façade. The corresponding distance between the mesh and the glass enhances this ventilation effect.

Excellent view from inside

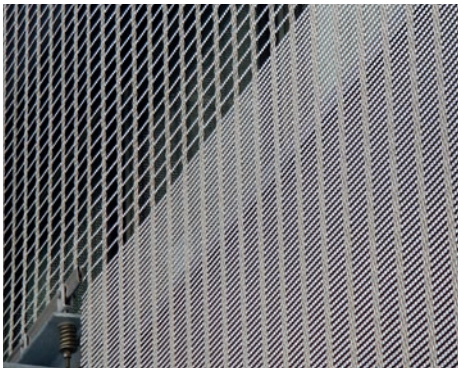
Depending on the selected mesh type, the façade appears to be extremely transparent from the inside mainly due to the viewing angle and the natural daylight.

Fixed and removable solutions

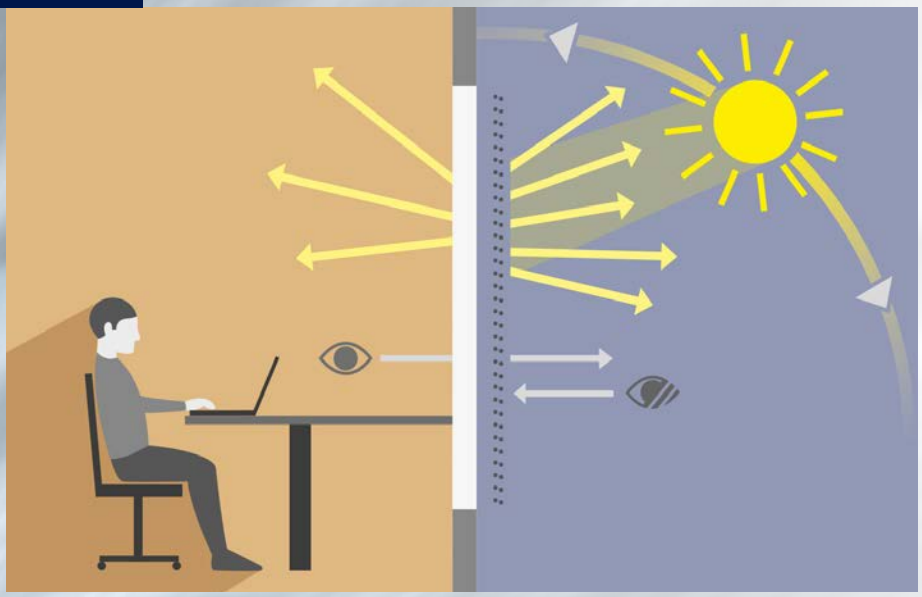
Wire mesh is particularly suitable for permanent use as sun protection using large-scale tensioned elements. It can also be integrated in sliding or hinged frames for removable solutions.



The combination of transparency and sun protection is ideal for modern glass architecture.



The precisely defined open area breaks up and filters sunlight creating a pleasantly cool and bright interior climate.



BEST VALUE.

DESIGN SHOWS IMPACT.

Appropriate key figures are used to objectively determine the effect of sunlight protection (including to determine additional air conditioning requirements). As such the g-value (total energy transmittance) refers to the proportion of solar energy that makes its way through a transparent component, for example a window. A g-value of 0.6 means that 60% of the solar energy reaches the interior, either as direct solar radiation or by heating the system and transmitting heat inside.

The interaction of the entire façade system needs to be borne in mind when using wire mesh as sun protection in combination with a glass façade. This includes the following factors:

- Type of glazing
- Incidence angle of sunlight
- Distance of the wire mesh to the glass façade (ventilation)
- Gloss level of the wire mesh

The Bavarian Centre for Applied Energy Research e.V. (ZAE Bayern) has researched different glazing and incidence angle with good and poor ventilation, all with external shading by means of wire mesh. The effect of the wire mesh on reducing energy can be determined by comparing the g-value for the entire system (mesh and glass façade) to the g-value for the glass façade. This results in the energy reduction factor F_C for shade. A value of 0.4 means that the energy transmission for the entire system (mesh and glazing) is reduced to 40% due to the sun protection mesh used.

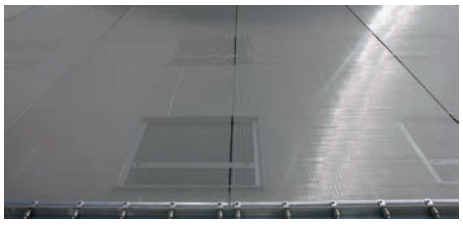
Excellent shading effect

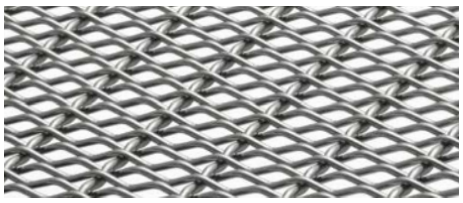
With a sunlight incidence angle of 60° and double glazing, most architectural mesh types achieve a reduction in transmitted solar energy of between 40% and 70%. In combination with corresponding sun protection glazing, they even achieve g-values of between 0.1 and 0.18 with the same incidence angle.

The mesh type LARGO-TWIST 2045 specifically designed for sunlight protection goes even further. At a 60° sunlight incidence angle, the energy transmission is reduced by more than 90%. This allows a g-value of 0.02 in combination with sun protection glazing.

EGLA-TWIN 4253				
Double glazing, good ventilation				
Incidence angle α	**glazing**	**0°**	**30°**	**60°**
g-value	0.78	0.45	0.43	0.27
F_C-factor	1.00	0.58	0.55	0.34

Sun protection glazing, good ventilation				
Incidence angle α	**glazing**	**0°**	**30°**	**60°**
g-value	0.29	0.18	0.17	0.11
F_C-factor	1.00	0.59	0.56	0.36





DOKAWELL-MONO 3601				
Double glazing, good ventilation				
Incidence angle α	**glazing**	**0°**	**30°**	**60°**
g-value	0.78	0.48	0.44	0.30
F_C-factor	1.00	0.62	0.56	0.38

Sun protection glazing, good ventilation				
Incidence angle α	**glazing**	**0°**	**30°**	**60°**
g-value	0.29	0.19	0.17	0.12
F_C-factor	1.00	0.62	0.57	0.41

LARGO-TWIST 2045				
Double glazing, good ventilation				
Incidence angle α	**glazing**	**0°**	**30°**	**60°**
g-value	0.78	0.38	0.27	0.06
F_C-factor	1.00	0.49	0.35	0.08

Sun protection glazing, good ventilation				
Incidence angle α	**glazing**	**0°**	**30°**	**60°**
g-value	0.29	0.15	0.11	0.02
F_C-factor	1.00	0.50	0.37	0.08

Values in accordance with DIN EN 13363-2

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