

# Архитектурная сетка

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Best values in sun protection: The sun protection mesh LARGO-TWIST 2045.

## 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 facade system needs to be borne in mind when using wire mesh as sun protection in combination with a glass facade. This includes the following factors:

- Type of glazing
- Incidence angle of sunlight
- Distance of the wire mesh to the glass facade (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 facade) to the g-value for the glass facade. 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.



**LARGO-TWIST 2045**

#### Double glazing, good ventilation

Incidence angle $\alpha$	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

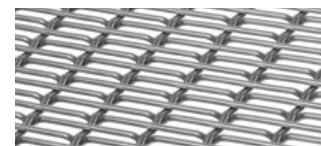
Incidence angle $\alpha$	glazing	0°	30°	60°
g-value	0.29	0.15	0.11	0.02
$F_c$ -factor	1.00	0.50	0.37	0.08



**EGLA-TWIN 4253**

#### Double glazing, good ventilation

Incidence angle $\alpha$	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

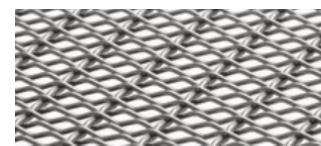
Incidence angle $\alpha$	glazing	0°	30°	60°
g-value	0.29	0.18	0.17	0.11
$F_c$ -factor	1.00	0.59	0.56	0.36



**DOKAWELL-MONO 3601**

#### Double glazing, good ventilation

Incidence angle $\alpha$	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

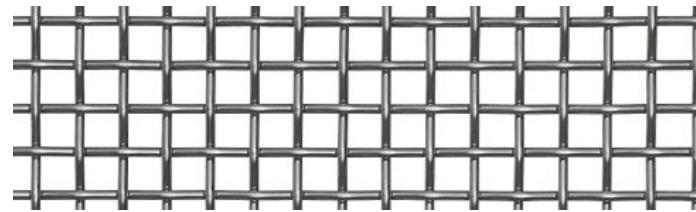
Incidence angle $\alpha$	glazing	0°	30°	60°
g-value	0.29	0.19	0.17	0.12
$F_c$ -factor	1.00	0.62	0.57	0.41

Values in accordance with DIN EN 13363-2

# ARCHITECTURAL MESH TYPES.

## PATTERNS OF DIVERSITY.

The weaves and mesh types manufactured by Haver & Boecker for architectural applications are as diverse as the architecture itself. The choice of weft and warp, as well as the weave type, result in the widest range of mesh patterns, each with a specific look and light effect. The use of various materials as well as glossy, silk matte or coloured mesh surfaces also allows the design spectrum to be expanded.



DOKA-MONO 1851

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
6,1	58



DOKAWELL-MONO 3571

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
4,5	60



DOKAWELL-MONO 3691

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
4,2	70



EGLA-MONO 4881

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
5,2	52



EGLA-MONO 4832

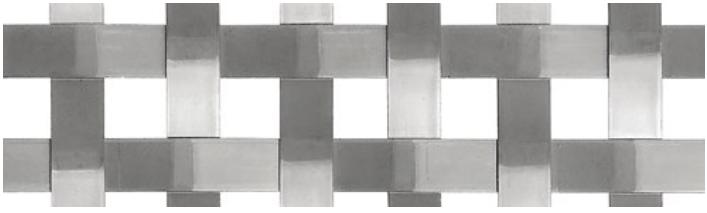
G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
3,4	69

<sup>1)</sup> G=Weight, <sup>2)</sup> A<sub>o</sub>= Open Area



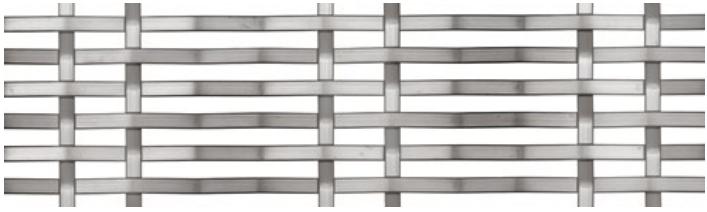
LARGO-NOVA 2032

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
6,6	40



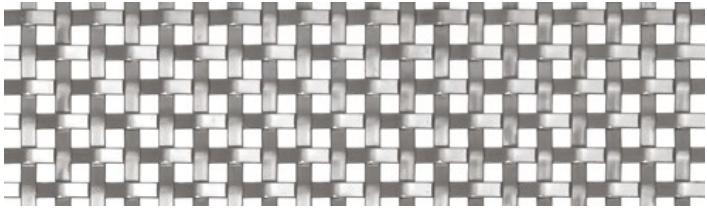
LARGO-PLENU斯 2022

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
8,1	25



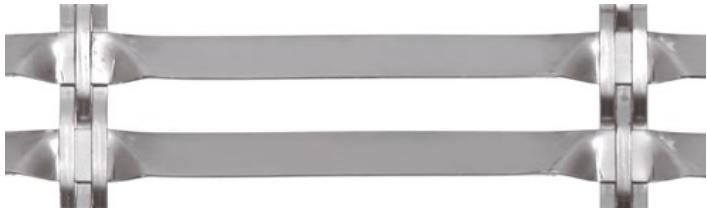
LARGO-PLENU斯 2047

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
5,1	43



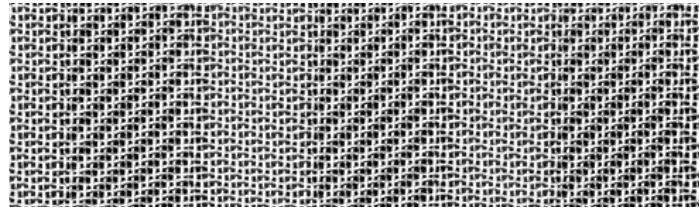
LARGO-PLENU斯 2127

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
7,45	28



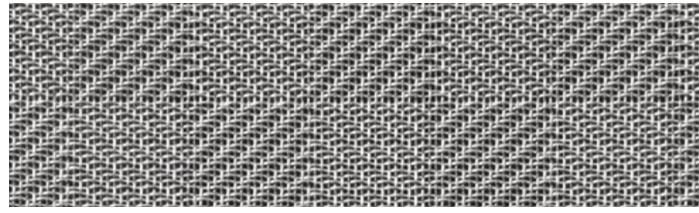
LARGO-TWIST 2045

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
5,5	38



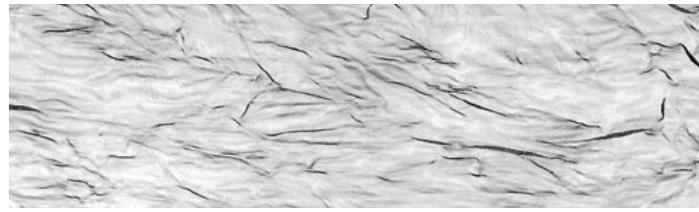
ALTERNA 6012

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
3,0	34



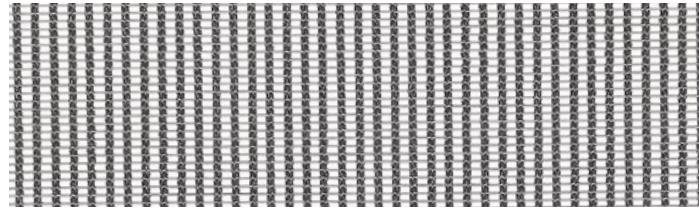
CHESS 6013

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
3,2	31



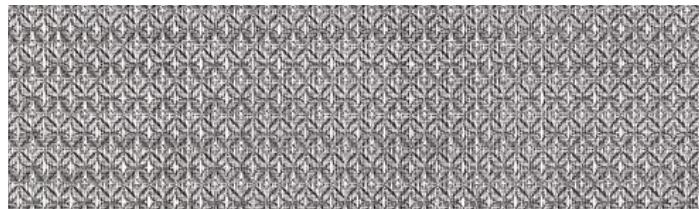
TEXTURA 1991

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
0,3	41



MINIFLEX 8135

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
2,1	39



STRUCTURA 6501

G <sup>1)</sup> (kg/m <sup>2</sup> )	A <sub>o</sub> <sup>2)</sup> %
1,1	22

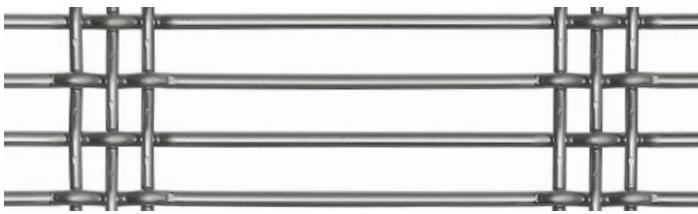
<sup>1)</sup> G=Weight, <sup>2)</sup> A<sub>o</sub>= Open Area



abZ

## MULTI-BARRETTE 8123

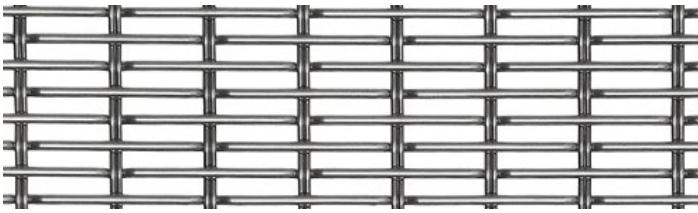
$G^1)$ (kg/m <sup>2</sup> )	$A_o^2)$ %
6,6	64



abZ

## DOGLA-TRIO 1033

$G^1)$ (kg/m <sup>2</sup> )	$A_o^2)$ %
6,5	67



abZ

## EGLA-TWIN 4253

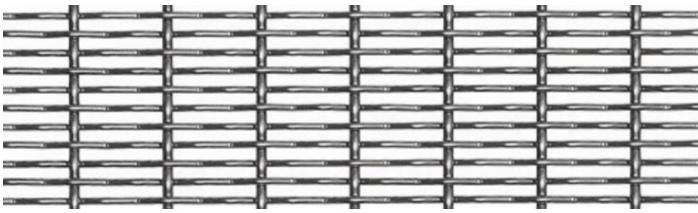
$G^1)$ (kg/m <sup>2</sup> )	$A_o^2)$ %
6,0	51



abZ

## EGLA-DUO 4262

$G^1)$ (kg/m <sup>2</sup> )	$A_o^2)$ %
6,6	52



abZ

## DOKAWELL-MONO 3601

$G^1)$ (kg/m <sup>2</sup> )	$A_o^2)$ %
5,3	52

<sup>1)</sup> G=Weight, <sup>2)</sup> A<sub>o</sub>= Open Area

## NATIONAL TECHNICAL APPROVAL (abZ). ON THE SAFE SIDE RIGHT FROM THE START.

### Advantages at a glance:

#### Time and cost savings

Save time and money - Case-by-case approvals are therefore no longer necessary in the private and commercial sectors.

#### Binding values

Benefit from the tested and binding performance values collected by the German Institute for Construction Technology (DIBt).

#### Legal compliance

Profit from the legal compliance of the accepted and approved standard-compliant building products HAVER Architectural Mesh.

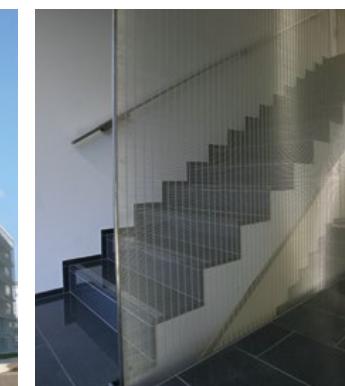
#### The abZ applies for the following wire mesh types\*:

- Cable mesh: MULTI-BARRETTE 8123
- Rigid mesh: DOGLA-TRIO 1033, EGLA-TWIN 4253, EGLA-DUO 4262, DOKAWELL-MONO 3601

\*After testing: Other wire mesh types are also possible.



Facade cladding of a parking garage with the HAVER Architectural Mesh DOGLA-TRIO.



Fall protection on the stairwell with wire mesh wire mesh cladding made of MULTI-BARRETTE.



Bridge cladding at a train station made of stainless steel wire mesh EGLA-DUO.

# MOUNTING.

## SECURE SOLUTIONS FOR INSPIRATIONAL INSTALLATIONS.

Various edgings and tensioning systems are available which are capable of integrating both the technical and visual aspects of architectural wire mesh into the ceiling and facade design. They ensure easy and safe installation as well as the optimum durability of the entire construction.

### Facade mounting - wire mesh

Mesh elements can be tensioned over several storeys using flat tension profiles, clevis screws and pressure springs. A solid substructure for absorbing the resulting loads is required at the upper and lower face. Intermediate mounting is provided at each floor level by means of a round tube and wire connectors running behind the mesh.



Top mounting: flat tension profile and clevis screws.



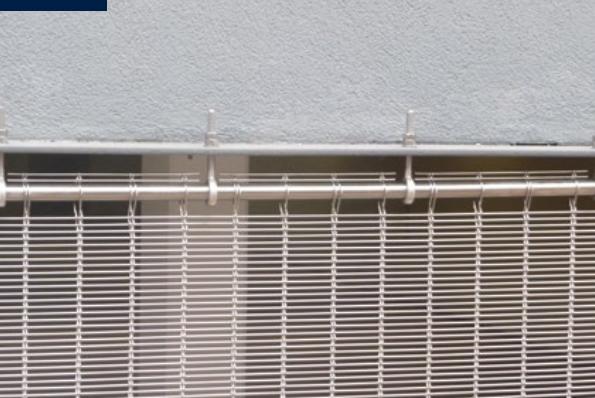
Mounting solution for wire mesh facades.



Intermediate mounting: round tube and wire connectors.



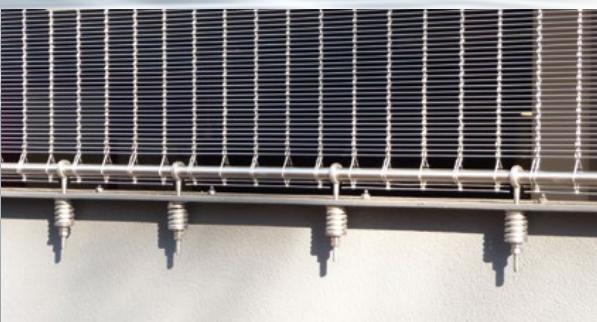
Bottom mounting: flat tension profile, clevis screws and pressure springs.



Top mounting: round bar with eyebolts.



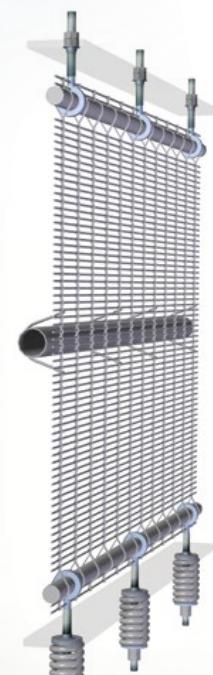
Intermediate mounting: round tube and wire connectors.



Bottom mounting: round bar with eyebolts and pressure springs.

#### Facade mounting - cable mesh

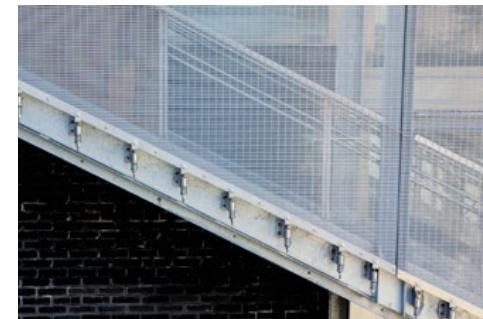
Cable mesh can also be tensioned over large areas using round bars and eyebolts. For intermediate mountings, round bars and pendular clips or alternatively round tubes and wire connectors can be used.



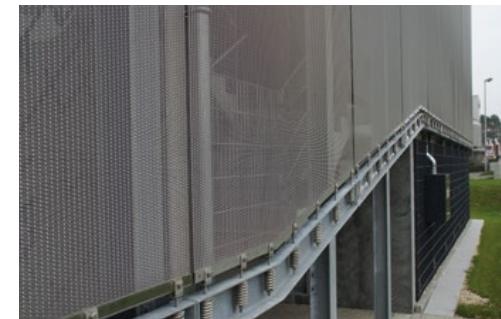
Mounting solution for cable mesh facades.

#### Facade mounting - special shapes

Each project has its own specific requirements. Whether curves, angled edges or cut-outs: Special solutions are individually determined and implemented with planners and contractors.



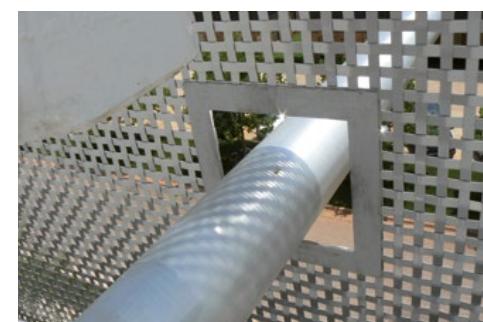
Angled elevation.



Rounded edges.



Pre-curved elements.



Cut-outs in mesh elements.



Mesh with edge protection profiles.

## Mounting solutions for ceilings

Tensioned across a wide area or in removable elements HAVER Architectural Mesh ceiling elements are able to meet a project's visual and technical requirements.

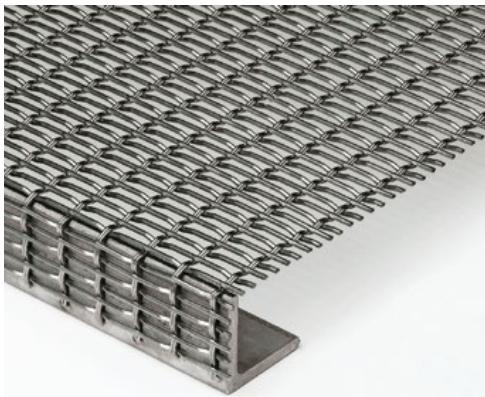


Fixed mounting system for ceiling with flat tension profiles and clevis screws.

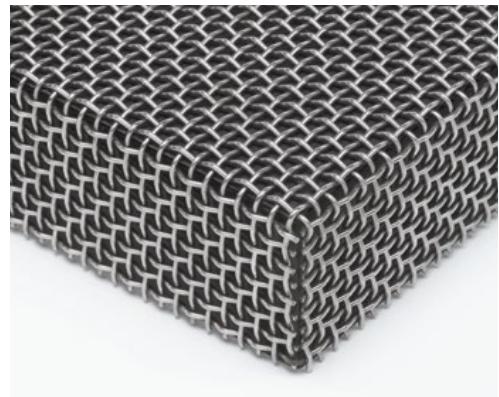


## Frame options

There are various design options available to select from for suitable frame solutions:



Mesh with edges folded at 90°, welded to L-profile.



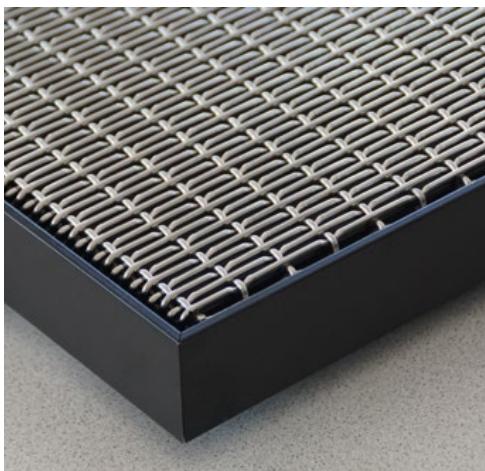
Mesh folded at 90° on all sides and fixed to a frame.



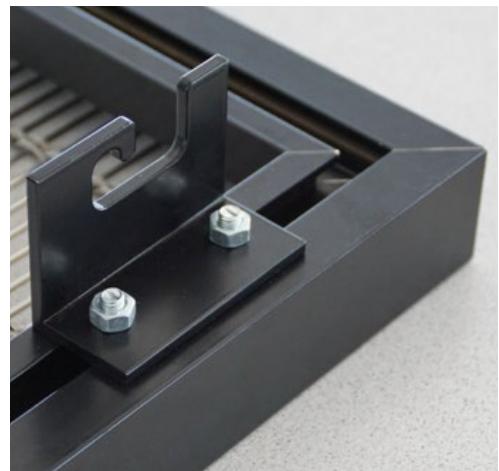
Adjustable mounting system for ceilings with sag.



Removable mounting system for ceilings without sag and with framed elements.



Special version: Mesh integrated into special aluminium frames.



Special version: Hanging options for framed elements.

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