perfora
PERFOROVANÉ MATERIÁLY

TECHNICAL CONDITIONS OF DELIVERIES

Dear Customer,
these technical delivery conditions are based on our experience with deliveries of perforated materials. Please read them and they can help you understand some important details in the selection of a particular material and in its proper use.
Thank you.

Expanded metal

Expanded metal is manufactured in accordance with DIN 791. Tolerances of external dimensions are in accordance with the above given standard as well as with dimensional standards of raw material EN10025, EN10029, EN10051, EN10131, EN10088. The incoming sheets and coils are not pre-cut for common storage items in standard dimensions 1000x2000mm, 1250x2500mm and 1500x3000mm.

The expanded metal sheets are made with the following tolerance:

- Width tolerance +/-5%
- Length tolerance +/-10%

Custom-made sheets are cut with the tolerance of +/-3mm up to a sheet thickness of 2mm. The expanded metal made of sheet thickness greater than 2 mm is cut with the tolerance of +/-5 mm. In case of other requirements, please state it in your order or supply a dimensioned drawing.

Due to the possibility of producing the same type of expanded metal on several machines, there may be minor differences in visual details. When reordering the same material, this fact must be taken into account and agreed with a sales representative.

Orientation of the expanded metal mesh: The first stated dimension of the expanded metal mesh is parallel to the first stated dimension of the sheet. This also applies to stair treads and gratings made of expanded metal. Stair treads made of expanded metal are marked: L-bearing length / W-non-bearing width / H-total height. Reinforcement strips are parallel to the second stated dimension of the sheet, unless otherwise required. The diagonals of expanded metal sheets may differ due to the way of the production.

Technical recommendations:

Expanded metal made from pre-galvanized steel has no layer of zinc in the inner edges of the holes. This expanded metal cannot be used outdoors (or in any other environment, which causes the oxidation) without further surface treatment.

The surface treatment by electro-galvanizing is also not suitable for outdoor use or any other oxidizing environment. It is necessary to make the second surface treatment (powder coating or transparent varnish).

The surface treatment by hot powder coating of mild steel sheets in one layer is not suitable for outdoor use or any other oxidizing environment. It is necessary to make another surface treatment such as galvanizing or cataphoresis beforehand, or to use perforated sheets made of pre-galvanized steel.

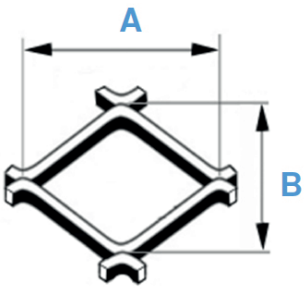
The surface protection done by hot-dip galvanizing is the longest effective protection. It can be performed on expanded metal with mesh larger than 8 mm and a sheet thickness of 1 mm and more. The smallest mesh suitable for galvanizing is, for example, MR22x12mm, MR28x10mm, MQ20x15mm. This surface treatment serves only for the protection of steel sheets and it cannot be considered as a decorative element. The white rust that is formed by oxidation of the zinc surface is not a product defect. Partially filled holes, diverse disparities and cuticles, which are caused by galvanizing, are not considered a product defect.

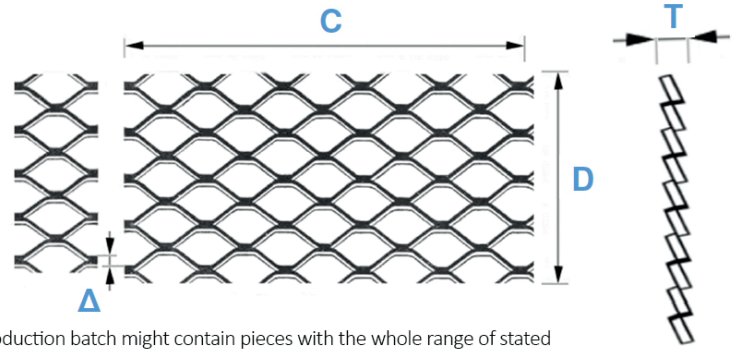
Stainless steel expanded metal 1.4301 is intended for technical use.

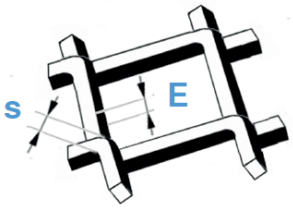
In the production of expanded metal small juts on each mesh are made due to folded tools. If the ceiling panels or other decorative elements will be made from expanded metal, which will not be further treated, please mention this requirement in your inquiry or order. These are mainly stainless steel and aluminium expanded metal.

Expandable metal can be bent into cassettes and other shapes. Unfortunately, the shape and size of the mesh cause that the bend is shifted to the point of least resistance. Bending tolerances can therefore be up to +/-5mm. If more accurate dimensions are required, we will make a sample and measure the real values.

Tolerance of expanded metal – general dimensions







The production batch might contain pieces with the whole range of stated tolerances therefore there may be a deviation in the mesh connecting points caused by the mesh width tolerance.

Designation	Name	Tolerance	DIN 791
A	Mesh length	±5%	±5%
B	Mesh width	±5%	±5%
C	Sheet width	+20 / -10 mm	±10%
D	Sheet length	+100 / -0 mm	n/a
E	Shift	±5%	±5%
s	Sheet thickness	±10%	±10%
T	Corrected expanded metal height	±25%	n/a

Tolerance of expanded metal – flatness

Fig. 1

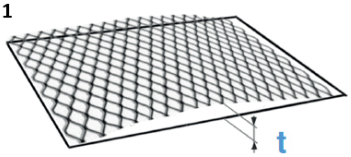
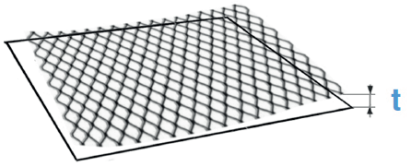
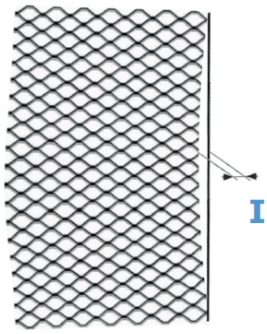


Fig. 2





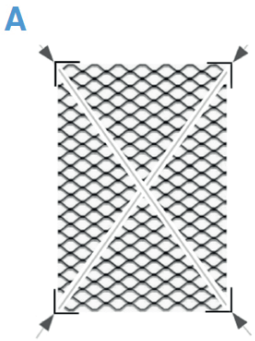
Designation	Name	Tolerance	DIN 791
t max.	Height of central wave (Fig.1)	25 mm	n/a
	Elevation at the beginning and end of the sheet (Fig.2)	40 mm	n/a

Expanded metal is placed on a flat surface front side up. Expanded metal is considered flat if the distance between the sheet and a checking plane is maximum 25mm (see Fig.1) in the central part or maximum 40 mm (see Fig.2) if the beginning and end of the sheet are elevated.

Designation	Name	Tolerance	DIN 791
I max	Straightness deviation	2 mm x D (m)	n/a

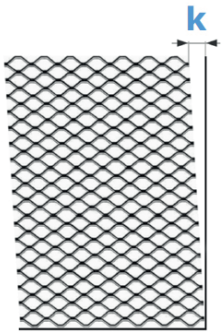
Expanded metal meets the straightness tolerance if the distance between the sheet and a checking plane is maximum 2mm per 1m of the expanded metal length D.

Tolerance of expanded metal – external dimensions



Designation	Name	Tolerance	DIN 791
A-B max	Difference between the diagonals	D (mm) / 200	n/a

Expanded metal meets the tolerance of diagonal difference if the distance between the diagonals is not larger than the expanded metal sheet length in mm divided by 200.



Designation	Name	Tolerance	DIN 791
k max	Perpendicularity deviation	4 mm x D (m)	n/a

Expanded metal is placed on a flat surface front side up. A try square is placed on the expanded metal in such a way that the side C matches the plane and a deviation of the side D is measured.

Expanded metal is considered perpendicular if the distance between the sheet and a checking plane is maximum 4mm per 1m of the expanded metal length D.