

## Technical conditions of deliveries

Dear customer,

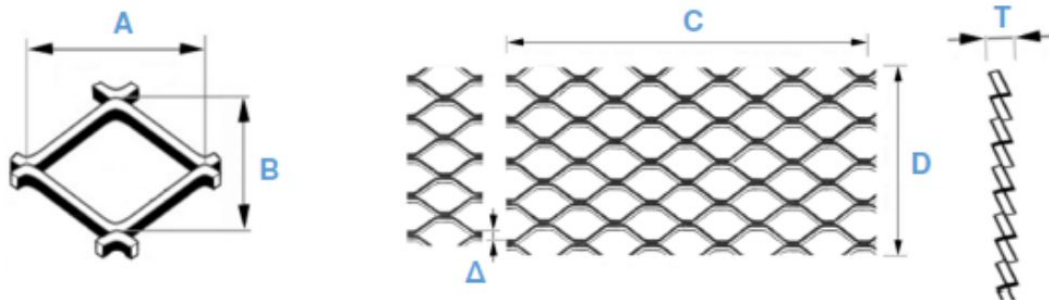
These technical delivery conditions are settled on the basis of experience, which we have gained during the deliveries of perforated materials. Please read them properly, they can be useful for understanding of some details, which are important for choice of particular material as well as for right application of particular material.

Thank You.

### Expanded metal

- Expanded metal is produced in accordance with the standard DIN 791.
- Tolerances of outer dimensions are in accordance with the standard mentioned above and in accordance with dimensional standards of raw material EN10025, EN10029, EN10051, EN10131, EN10088.
- The raw material in sheets and coils is not pre-cut for common stock items in standard dimensions 1000 x 2000 mm, 1250 x 2500 mm and 1500 x 3000 mm. So the sheets of expanded metal have following tolerances:  
Width tolerance: +/- 5 %  
Length tolerance: +/- 10 %
- Tailor-made cutting is done with tolerance +/-3 mm up to thickness 2 mm. The expanded metal with bigger thickness than 2 mm is cut with tolerance +/- 5 mm. Please state in Your order or send the technical drawing in case of request for another tolerances.

#### Tolerance of expanded metal – general measurements

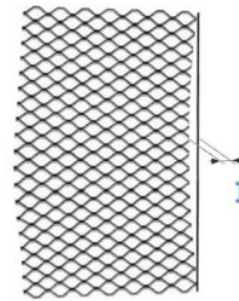
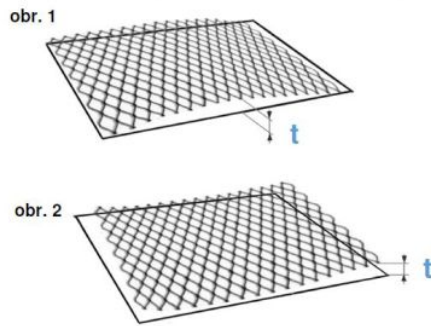


The production batch may contain pieces with the above tolerances. This may lead to a  $\Delta$  in the mesh connection points caused by the mesh width tolerance.



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

### Tolerance of expanded metal – flatness



Designation	Name	Tolerance	DIN 791
t max.	Height of central Wave (Fig.1)	25mm	n/a
	Elevation at front and end of the mesh screen (Fig.2)	40mm	n/a

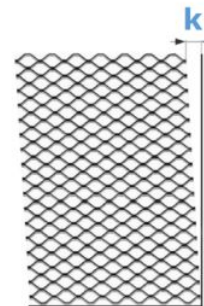
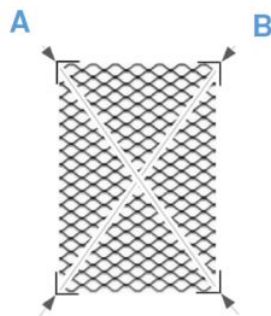
Designation	Name	Tolerance	DIN 791
I max.	Straightness deviation	2mmxD(m)	n/a

Expanded metal meet the straightness tolerance if the distance between the mesh screen and the control plane is no more than 2mm per 1m of metal length D.

Expanded metal is placed on a flat surface front side up.

Expanded metal is considered flat if the distance between the mesh screen and the control plane is at least 25mm in the central part (see Fig.1), or no more than 40mm if the front and end are elevated (see Fig.2).

### Tolerance of expanded metal – external dimensions



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

Designation	Name	Tolerance	DIN 791
A-B max.	Perpendicularity deviations	4mmxD(m)	n/a

Expanded metal meet the tolerance of diagonal difference if the measured difference between the diagonals is not larger than the mesh screen length in mm divided by 200.

The mesh screen is measured using corner angle pieces.

Expanded metal is placed on a flat surface front side up.

A control angle piece is placed on the expanded metal so that side C touches the plane and the drift of side D is measured.

Expanded metal is considered perpendicular if the distance measured between side D and the control plane is no more than 4mm per 1m of length of expanded metal D.

### Technical recommendations

- Expanded metal made from pre-galvanized steel have no layer of zinc in the inner edges of the holes. Those expanded metal can not be used in outdoor (or in any other environment, which causes the oxidation) without any other surface treatment.
- The surface treatment electro-galvanizing is also not suitable for outdoor environment or any other environment, which causes the oxidation. It is necessary to make the second surface treatment (powder coating etc.).
- The surface treatment hot powder coating of mild steel sheets in one layer is not suitable for outdoor environment or any other environment, which causes the oxidation. It is necessary to make previous surface treatment by galvanizing or cataphoresis or use expanded metal made from pre-galvanized steel.
- The surface treatment hot dip galvanizing is the most proper protection. It can be done on expanded metal with the holes bigger than 8 mm and in steel thickness 1 mm and bigger. The smallest mesh possible for hot dip galvanizing is for example TR 22x12 mm, TR 28x10 mm or TQ 20x15 mm and bigger. That surface treatment is only the protection of steel sheets and it

can not be considered as decorative element. White rust, which is created by oxidation of the surface of the zinc, is not considered as the defect of the product. Partially filled holes, diverse disparities and cuticles, which are caused by galvanizing, are not considered as the defect of the product.

- Small juts on each mesh are caused by tools during the perforated and expanded process. If the ceiling panels or another decorative elements will be made from expanded metal, which will not be covered by any surface treatment, please mention this requirement in Your inquiry or order. It is valid for aluminium and stainless steel expanded metal mainly.
- The expanded metal can be bent into the cassettes and other shapes. Unfortunately the shape and size of the mesh cause shift of the bending into the point of the smallest resistance. So the tolerance for bending can be until +/- 5 mm. In case of need of more precious tolerances we make a sample and we measure the real values.