

**PRODUCT
CARD**

BP2.EU

**TRAPEZOIDAL
STEEL SHEET**

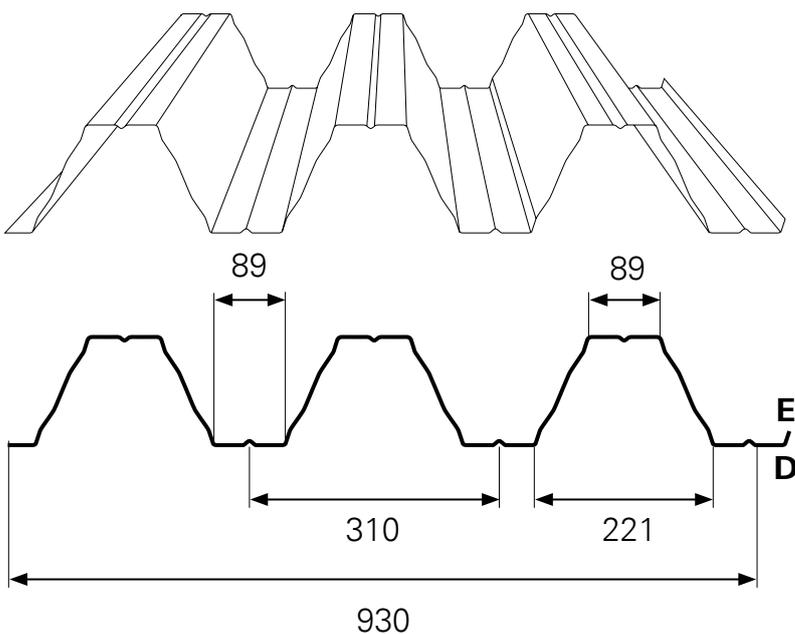
T135B

Trapezoidal sheets are widely used in the construction industry due to their high versatility. They are an excellent facade cladding and roof covering material for buildings: from the smallest (garages and sheds) to large production buildings and commercial facilities. Our offer includes a wide range of products, from economical solutions to tall construction profiles with parameters enabling their use in the most demanding industrial applications.



T135B

Technical parameters [in mm]	
Effective width	930
Total width	~974
Height of profile	136
Thickness of steel sheet	0,7-1,5
Max. length of sheet	14 000



The assumption and a comment on the steel sheet resistance tables

Load-bearing capacity tables have been prepared for trapezoidal sheets manufactured by "BLACHPROFIL 2" used as single-span beams and continuous beams: two-span and three-span beams, as well as for overlapping sheets - as two- and three-span beams (tables for overlapping arrangements can be obtained by contacting the BLACHPROFIL 2 project sales department). Alternative supports (positive or negative) were taken into account.

The results were obtained on the basis of static-strength analysis of steel sheets treated as thin-walled elements according to the algorithm of Professor R. J. Garncarek from the Białystok University of Technology, according to PN-EN 1993-1-3: August 2008, as amended. The calculations were performed using the software developed by "KOTEX" (www.kotex.waw.pl).

In the calculations, the following assumptions were made in accordance with PN-EN 1993-1-3:

- elastic material with yield strength f_{yb} according to Table 3.1b;
- material safety factor $\gamma_m = 1.0$.

The tables summarize the design loads for limit state I (ULS), expressing the permissible load bearing capacity and the characteristic loads for limit state II (SLS), corresponding to the permissible deflections. The permissible loads in the SLS are specified for deflections $L/150$, $L/200$, and $L/300$. The loads are expressed in kN/m^2 .

General recommendations

The tables indicate the extreme support widths (60 mm) recommended by the manufacturer while in the calculation, the extreme support width was assumed to be $a=10$ mm in accordance with a PN-EN standard. The tables for the regular, two- and three-span arrangements were prepared for intermediate support widths of $b=60$ mm, 100 mm, 140 mm, and 300 mm.

The design loads should be compared with the values in the tables - row 1, for a span not less than the value assumed in the design of the structure.

In the case of two- and three-span sheets, the table corresponding to the width of the intermediate support b not larger than the width assumed in the design of the structure should be chosen.

Linear interpolation can be used for both the intermediate support width b and the L span.

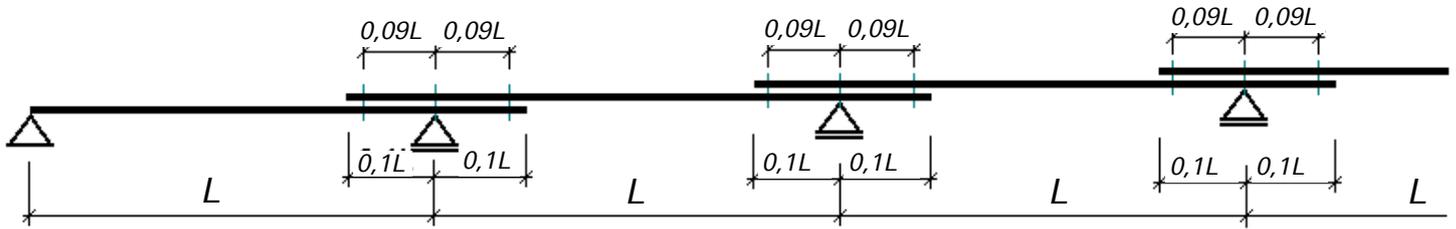
These tables may be used if the following conditions are met:

- the load acting on the assumed static systems is a uniformly distributed continuous load;
- the span lengths in multi-span arrangements do not differ by more than 5%, but to determine ULS and SLS, the largest length of the span is assumed;
- the trapezoidal sheet fixing method is in accordance with the manufacturer's instructions.

In other individual cases, it is recommended to consult a representative of our company.

Recommendations for overlapping arrangements

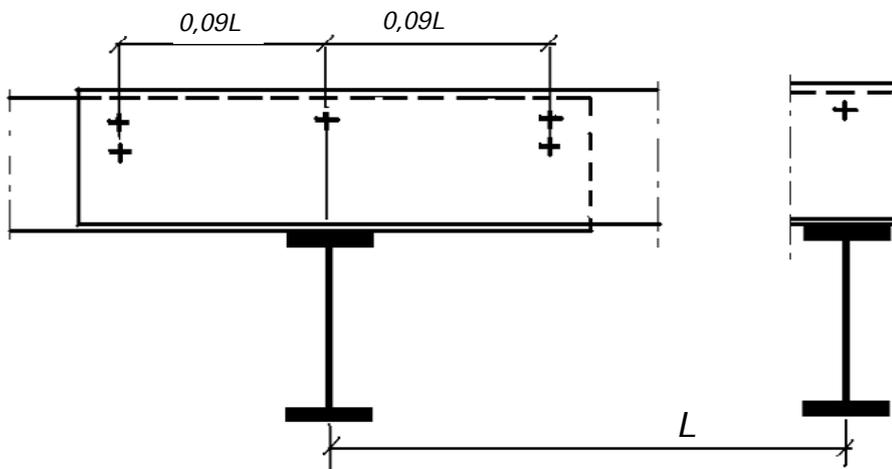
The tables have been prepared assuming overlaps equal to 0.1 of the span, as shown in Figure*:



For overlap arrangements, the intermediate support must meet the condition of ≥ 60 mm.

The connectors should be placed above the support axes and on both sides of the support at a distance equal to 0.09 of the span:

The minimum distance between the center of gravity of the connectors and the support



Sheet weight (kg/m²)

THICKNESS	WEIGHT
0,70	8,86
0,75	9,50
0,80	10,13
0,88	11,14
1,00	12,66
1,15	14,56
1,25	15,86
1,50	18,99

* Tables for overlapped layouts are available on request.



BLACHPROFIL 2 Sp. z o.o.
30-527 Kraków, ul. Nadwiślańska 11/139
NIP: 6762431701, Regon: 121387608

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