

Load-bearing sheet T45-30L-905

Optimal geometry of the T45 enables cost efficient roof structures for reasonable spans.

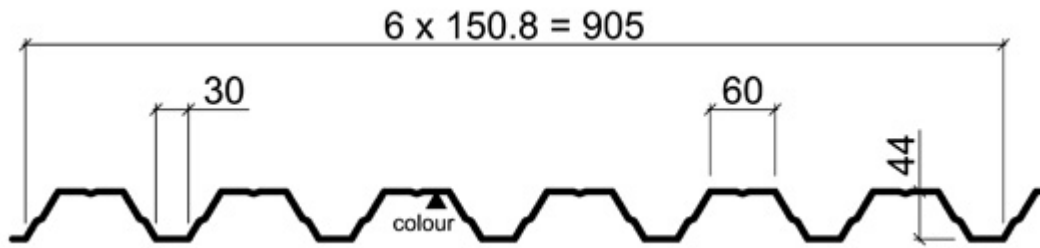
For the optimal structural dimensioning, use Ruukki's roof dimensionin software, [Poimu](#).

All of Ruukki's load-bearing sheets can be equipped with smart technology. The new [Ruukki® Roof Sensor system](#) tracks snow loads on roofs in real time, prevents dangerous situations and saves costs by making snow removal smarter. Read more about the benefits of smart roofs [here](#).



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Properties



Model name	Load-bearing sheet T45-30L-905
Product code	T45-30L-905
Height	44 mm
Width of valley	30 mm
Width of crown	60 mm
Effective width	905 mm
Minimum length	500 mm
Maximum Length	15000 mm
Typical Span	<3.5 m
Quality control	Factory production control according to EN 1090-1 and EN 1090-4
Tolerances	Dimensions and shape according to EN 1090-4, material thickness according to EN 10143
CE Marking	According to EN1090-1
Execution class	EXC1 and EXC2

Materials

Material thickness (mm)	Steel grade	Zinc (g/m ²)	Surface treatment	Corrosion class, interior	Corrosion class, exterior	Colours	Weight (kg/m ²)
0.6	S280	Z275	Galvanized	C2	-	-	6.51
0.6	S280	Z275	Polyester 25	C3	C3	RR20	6.51
0.7	S350	Z275	Galvanized	C2	-	-	7.59
0.7	S350	Z275	Polyester 25	C3	C3	RR20	7.59
0.7	S350	Z275	GreenCoat Pural	-	C4	RR21, RR22, RR23, RR33	7.59
0.9	S350	Z275	Galvanized	C2	-	-	9.76
0.9	S350	Z275	Polyester 25	C3	C3	RR20	9.76

Note: The reverse sides of the colour coated sheets are painted as standard with 2-layer grey backside coating

Protection against corrosion

Environment	Coating
Interior applications in environments with corrosivity category C1, C2 according to EN ISO 12944-2 standard and A1, A2 according to EN 10169 standard	Steel sheets with zinc coating of 100 g/m ² and with polyester coating SP 15, thickness 15 µm
Interior applications in environments with corrosivity category C1, C2, C3 according to EN ISO 12944-2 standard and A1, A2, A3 according to EN 10169 standard	Steel sheets with zinc coating of 275 g/m ² and with polyester coating SP 25, thickness 25 µm

Design tools



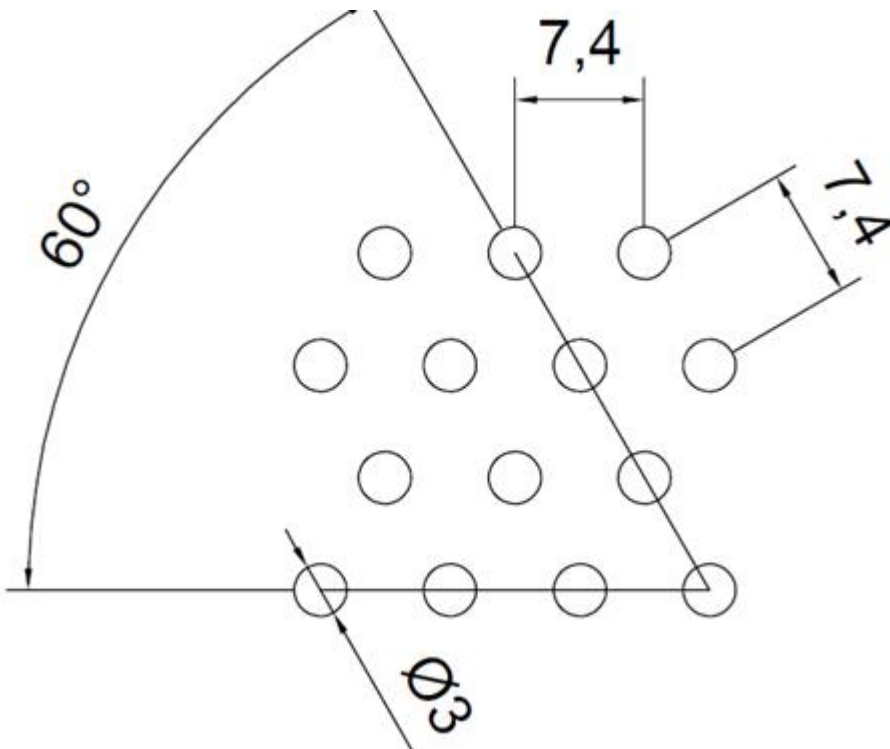
Poimu software for dimensioning load-bearing sheets

Dimensioning software, Poimu, allows you to optimise product choice according to the Eurocode. Simply by defining some basic input data you can select a load-bearing sheet for their needs from Ruukki's selection. This quick optimisation tool covers 1-, 2-span and continuous structures and gives the exact solution as to what sheet should be used, as well as its length.

[Go to Poimu software](#)

Perforation

Standard degree of perforation (within the area perforated) is 15%. Perforations are 3 mm in diameter and their arrangement is based on an equilateral triangle with a side of 7.4 mm.



Perforation pattern Rv 3.0 - 7.4; degree of perforation = 15% within the area perforated.

Corrosion resistance

Perforated trapezoidal profiles ought to be applied in accordance with technical specifications drawn up to comply with obligatory standards, building regulations and assembly instructions.

Due to requirement regarding corrosion resistance perforated steel sheets may be applied only indoors and as follows:

Galvanized steel sheets with zinc coating 100 g/m² and organic coating SP 15 (polyester 15 µm) or Galvanized steel sheets with zinc coating 275 g/m² and organic coating SP 25 (polyester 25 µm) - in corroding medium C1 and C2 as per EN ISO 12944.

Load bearing profile application

Load bearing profiles are usually applied in multi layer roofing constructions. Web perforation leads to decreased strength parameters in the case of load bearing trapezoidal sheets. Use of Poimu software is recommended when determining the load capacity of perforated profiles: this software enables trapezoidal sheets within a structure to be dimensioned and optimized. For more information on Poimu visit software center and download [Poimu](#).

Sound absorption is similar to all profiles. However, small differences in sound insulation may occur dependent on profile height.

Low profile application

Acoustic profiled sheets have their whole surface perforated uniformly and are applied as interior facings of multi layer wall constructions and ceilings. They are characterized by a high sound insulation coefficient (150 - 4000 Hz). Application of perforated trapezoidal profiles results in improved acoustic conditions in such buildings as canteens and sports or production halls. Regulation of reverberation time is also possible through application of an appropriate quantity of perforated sheets in relation to non-perforated sheets.

Acoustic absorption coefficient, absorption class

Acoustic absorption coefficient α_s was determined on the basis of ISO 354:2003. Absorption class was determined on the basis of EN 11654:1997.

Tables 1 - 3 present acoustic absorption coefficients and absorption class for the relevant trapezoidal profiles and a construction corresponding to them. Specimens are named according to trapezoidal profile.

Table 1. Absorption coefficient and class for construction

Absorption coefficient at octave bands

Specimen	63 H z	125 H z	250 H z	500 H z	1000 H z	2000 H z	4000 H z	Absorption class
T20 - vapour barrier	0.22	0.70	0.89	0.85	0.79	0.45	0.18	D

- rock wool 100mm -100kg/m ³								
T45 - vapour barrier - rock wool 100mm -100kg/m ³	0.25	0.73	0.93	0.89	0.84	0.48	0.18	D
T130 - vapour barrier - rock wool 100mm -100kg/m ³	0.29	0.85	0.98	0.86	0.35	0.21	0.09	E
T153 - vapour barrier - rock wool 100mm -100kg/m ³	0.28	0.83	0.97	0.85	0.41	0.22	0.08	E

Table 2. Absorption coefficient and class for construction

Absorption coefficient at octave bands

Specimen	63 H z	125 H z	250 H z	500 H z	1000 H z	2000 H z	4000 H z	Absorption class
T20 - rock wool 100mm -100kg/m ³	0.18	0.74	0.94	0.92	0.93	0.94	0.82	A
T20 - sound absorbing mat 120 g/m ³ - vapour barrier - rock wool 100mm -100kg/m ³	0.20	0.63	0.82	0.84	0.88	0.70	0.46	C
T153 - rock wool 100mm -100kg/m ³	0.23	0.63	0.82	0.84	0.88	0.70	0.46	C
T153 - sound absorbing mat 120 g/m ³ - vapour barrier - rock wool 100mm -100kg/m ³	0.24	0.80	0.97	0.86	0.49	0.30	0.20	D
T153 - sound absorbing mat 120 g/m ³ - sound absorbing mat 120 g/m ³ - vapour barrier	0.05	0.20	0.54	0.79	0.44	0.31	0.24	D

- EPS 60S Roof 100mm

Table 3. Absorption coefficient and class for construction

Absorption coefficient at octave bands

Specimen	63 H z	125 H z	250 H z	500 H z	1000 H z	2000 H z	4000 H z	Absorption clas s
T153 - rock wool 50mm-150kg/ m ³ - vapour barrier - rock wool 50mm -110kg/ m ³	0.20	0.69	0.79	0.77	0.45	0.29	0.26	D

Material characteristics for specimen layers

- Ruukki trapezoidal profile
- Vapour barrier (0.25mm, 170g/m²)
- Mineral wool - description given for every specimen in the tables
- EPS 60S Roof (15kg/m³)

Roof sensor

Ruukki® Roof Sensor System

The purpose and aim of the Ruukki® Roof Sensor System is to measure and visualize the snow load on roofs constructed with Ruukki load bearing sheets. The system provides valuable information for safety and management decisions concerning the building. It's accessory for all Ruukki load bearing sheets and is available for new and old roofs that have access to the lower surface of the sheeting. The system is easy to install and use and there is no need for further monthly service fees.

Following corner stones are needed in the system

1. In structural design, **Ruukki's POIMU roof dimensioning program** must be used
2. Ruukki Roof Sensors location must be defined by the structural designer and sensors appropriately fitted by the installer
3. The parameters needed in system configuration are defined in POIMU program

After the sensors installation and system configuration, the system gives warnings when designers defined characteristic snow load level have been reached. Further warnings will be given well before load bearing sheeting is approaching its ultimate capacity. Warnings are given by visual light on the roof level and through user interface in web pages in a local network.

Documentation



Ruukki Roof Sensor infographics

PDF, 0.5 MB



Ruukki Roof Sensor gateway instructions

PDF, 391.1 KB



Ruukki Roof Sensor Poimu guide

PDF, 0.8 MB



Ruukki Roof Sensor users manual

PDF, 403.1 KB



Ruukki Roof Sensor installation instruction

PDF, 3.1 MB



Ruukki® Roof Sensor positioning table

DOCX, 94.8 KB



Ruukki Roof Sensor infographic

PDF, 0.5 MB

Technical documents

Here you can find all technical documents related to Ruukki's load-bearing sheets. Documents are organised by document type. Click to enter document library.

**Accessory
documents**



Detail drawings



**Installation
instructions**



**Maintenance
instructions**



Certificates and approvals

Here you can find all certificates and approvals related to Ruukki's load-bearing sheets. Documents are organised by document type. Click to enter document library.

**Declaration of
performance**



**Environmental
product declaration**

