Load-Bearing Sheet T70-57L-1058

Optimal geometry of the T70 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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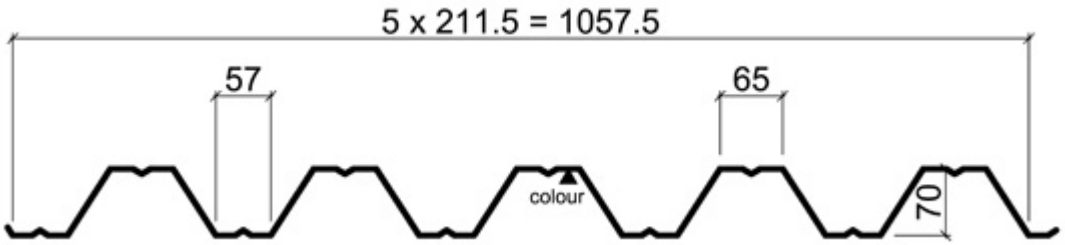
Properties



Model name	Load-Bearing Sheet T70-57L-1058
Product code	T70-57L-1058
Height	70 mm
Width of valley	57 mm
Width of crown	65 mm
Effective width	1057.5 mm
Minimum length	600 mm
Maximum Length	15000 mm
Typical Span	<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	EN1090-1
Execution class	EXC1, EXC2, EXC3

Materials

Material thickness (mm)	Steel grade	Zinc (g/m^2)	Surface treatment	Corrosion class, interior	Corrosion class, exterior	Colours	Weight (kg/m^2)
0.7	S350	Z275	Galvanized	C2	-	-	7.79
0.7	S350	Z100	Polyester 15	C2	-	RR20	7.79
0.7	S350	Z275	Polyester 25	C3	C3	RR20	7.79
0.8	S350	Z275	Galvanized	C2	-	-	8.90
0.8	S350	Z100	Polyester 15	C2	-	RR20	8.90
0.8	S350	Z275	Polyester 25	C3	C3	RR33	8.90
0.9	S350	Z275	Galvanized	C2	-	-	10.02
0.9	S350	Z100	Polyester 15	C2	-	RR20	10.02
1.0	S350	Z275	Galvanized	C2	-	-	11.13
1.0	S350	Z100	Polyester 15	C2	-	RR20	11.13
1.0	S350	Z275	Polyester 25	C3	C3	RR20, RR33	11.13
1.0	S350	Z275	GreenCoat Pural	-	C4	RR23	11.13

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 ac	Steel sheets with zinc coating of 275 g/m^2 and with polyester coating SP 25, thickness 25 µm

cording to EN ISO 1294 4-2 standard and A1, A2, A3 according to EN 1016 9 standard	

Design tools

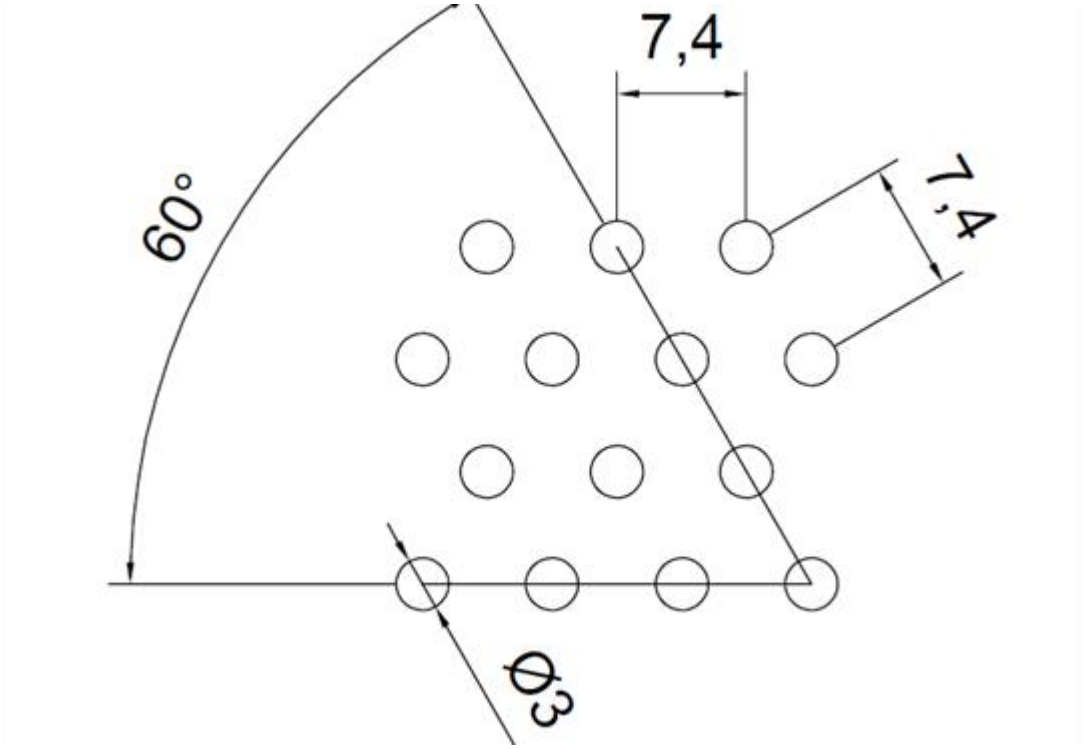
Poimu software for dimensioning load-bearing sheets

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 draw 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 fand organic coating SP 15 (polyester 15 µm) or
Galvanized steel sheets with zinc coating 275 g/m2 fand 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 ration to non-perforated sheets.

Acoustic absorption coefficient, absorption class

Acoustic absorption coefficient αs 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 names according to trapezoidal profile.

Table 1. Absorption coefficient and class for construction

Absorption coefficient at octave bands

Specimen	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	Absorption class
T20 - vapour barrier - rock wool 100mm -100kg/m^3	0.22	0.70	0.89	0.85	0.79	0.45	0.18	D
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 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	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 - EPS 60S Roof 100mm	0.05	0.20	0.54	0.79	0.44	0.31	0.24	D

Table 3. Absorption coefficient and class for construction

Absorption coefficient at octave bands

Specimen	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	Absorption class
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