

LEWIS®

Metal decking

LEWIS® metal decking is a selfsupporting, light gauge galvanised steel reinforcement sheet, used for shuttering and reinforcing lightweight concrete or screeded floors of limited thickness (50 mm). Used in a composite floor construction LEWIS® Dovetailed metal decking provides a first class solution for fire protection, acoustic issues and Under Floor Heating & Cooling within floors.

LEWIS® metal decking solutions can be used in a varied range of projects from renovation and conversions to traditional new build, timber frame, off-site system building, modular building systems and mezzanine floors.

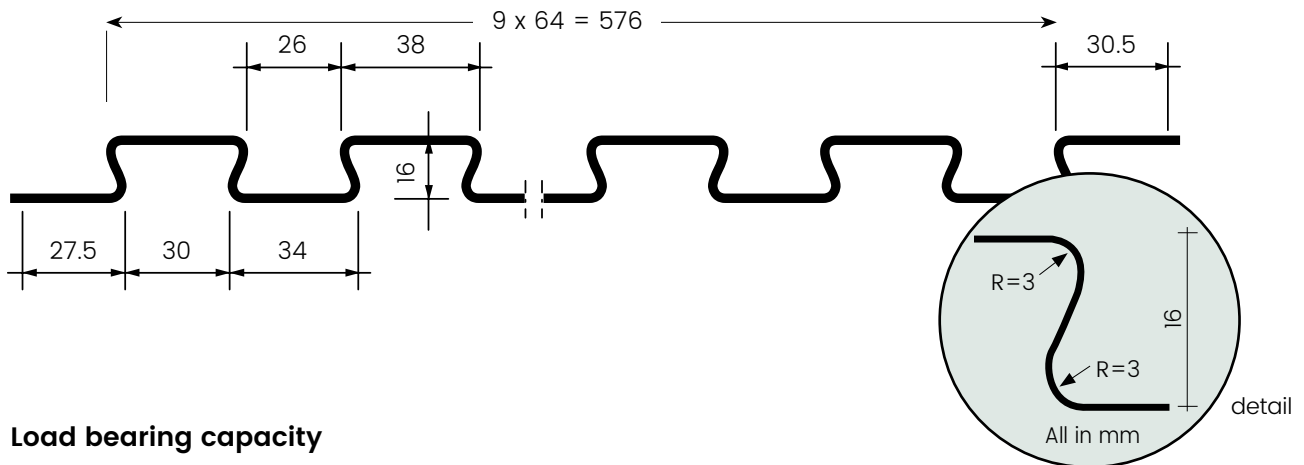
Features

- Low dead weight (from approx. 0.9 kN/m²)
- Thin floor thickness (from 50 mm)
- High permissible load
- Spans (centre to centre) up to max. 2500 mm
- High impact and airborne sound insulation
- Fire resistance up to 120 minutes
- Flexible system construction
- Durable due to use of high quality steel
- Sustainable and cost reducing solution



Pieter Zeemanweg 107
3316 GZ Dordrecht (NL)

+31 (0)78 617 44 00
reppel@reppel.nl
www.reppel.nl

Standard profile (sizes in mm)**Load bearing capacity**

The LEWIS® dovetailed profile has optimized geometry as a result of which the concerted action between the LEWIS® metal sheeting and the fine gravel concrete or liquid screed ensures the highest possible load bearing capacity.

LOAD BEARING CAPACITY OF LEWIS® FLOOR SLAB WITH CONCRETE STRENGTH CLASS C20/25

FLOOR SPAN [mm]	FLOOR THICKNESS [mm]	LOAD BEARING CAPACITY (kN/m ²)	CONCENTRATED LOAD 50 X 50 mm (kN) ** STANDARD MESH Ø5 - 150 (Q131)*	
			Free edges	No free edges
600	50	30,5	3	5
900	50	19,5	3	5
1200	50	13,8	3	5
1500	50	9,7	3	5
2000	75	6,1	3	5
2500	75	4,1	3	5

* Standard mesh ø5 - 150 (Q131) applied directly on the LEWIS® sheet

** For different concentrated loads please consult REPPPEL.



Acoustic

To improve the acoustic characteristics of the LEWIS® floor system it is possible to create a floating floor by means of using LEWIS® resilient strips under the LEWIS® Dovetailed metal sheeting. The strips can be laid onto the floor boards (over the joists) or directly on the joists.

Fire resistance

A LEWIS® composite floor slab has a fire resistance of 60 minutes. Depending on the floor span and the load on the LEWIS® composite floor additional reinforcement mesh is sometimes necessary. Floor constructions with a fire resistance up to 120 minutes are possible.



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Reports & Certification

The production facility is ISO 9001 and ISO 14001 certified. LEWIS® Metal decking has been extensively tested. European test reports and test measurements are available. Test data includes a CE marking, Dutch KIWA quality declaration, German Bauartgenehmigung, French and Belgian Avis Techniques.

TECHNICAL DETAILS LEWIS® METAL DECKING

Nominal width	630 mm
Effective width	580 mm
Standard lengths	1220 / 1530 / 1830 / 2000 mm / 2500
Length range	800 – 7000 mm
Dimensional tolerances	length: 1 – 4 mm width : 1 – 3 mm
Moment of inertia	$I_x = 3.6 \text{ cm}^4/\text{m}^1$
Moment of resistance	$W_x = 3.0 \text{ cm}^3/\text{m}^1$
Steel gauge	0.5 mm (0.6 en 0.7 mm available on request)
Height of profile	16 mm
Flange width	38 / 34 mm
Weight	0.058 kN/m ²

Steel quality: S320GD + Z100 N-A-C according to EN 10346
Z275 and ZM310 Magnelis® available on request.



LEWIS® is a registered trademark of Reppel b.v.

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