LEWIS® on SYLOMER® TSS resilient strips

LEWIS®

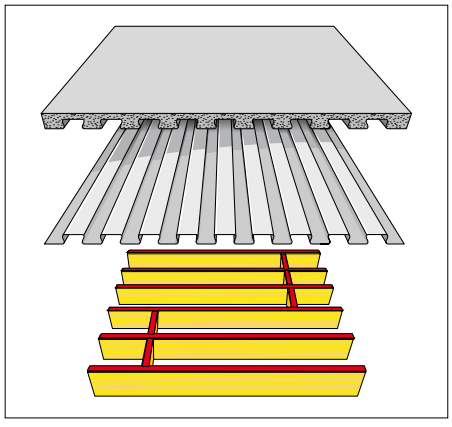
LEWIS® Dovetailed metal decking is a self-supporting, light gauge galvanized steel reinforcement sheet used for shuttering and reinforcing concrete or screed floors of limited thickness on wooden or steel frame constructions. LEWIS® provides a professional and reliable decking solution for renovation and new build applications.

Common applications for LEWIS® Dovetailed sheeting

- Up-grading floors on existing timber joists, timber engineered or structural steel beams
- Acoustic separating floors within all types of new build construction
- Upgrading acoustic, fire and load bearing floor performance within existing buildings
- Mezzanine floors
- Structural floors

Acoustics

Besides high load bearing capacity requirements there is also an increasing



demand for high quality acoustic separating floor systems. LEWIS® composite floors make it possible to create a so called "floating floor". Depending on acoustic requirements, a range of different types of resilient strips can be chosen to create an optimal mass-spring system.

The highest possible acoustic performance of the LEWIS® decking system can be achieved by using SYLOMER® TSS resilient strips

SYLOMER® TSS resilient strips

SYLOMER® TSS is a high quality polyurethane foam (elastomer) that because of its permanently elastic behavior is perfectly suitable to create a mass-spring system that decouples the vibration source from its surroundings and suppresses impact noise and vibrations.

SYLOMER® TSS resilient strips are specially developed in Germany by Getzner Werkstoffe GmbH to be used in combination with the LEWIS® metal decking. Successful acoustic tests have been carried out in co-operation with the University of Rosenheim and the German institute DGFH on LEWIS® acoustic floor constructions with SYLOMER® TSS resilient strips.

With SYLOMER® TSS resilient strips it's easily achievable to design LEWIS® composite floor systems exceeding the standard requirements for acoustic separating floors in current UK Building Regulations.

Coloured red and blue, we have 2 different types of SYLOMER® TSS resilient strips available (please see tables for details). SYLOMER® TSS is available in 80 mm wide x 12 mm thick x 5 m roll lengths.

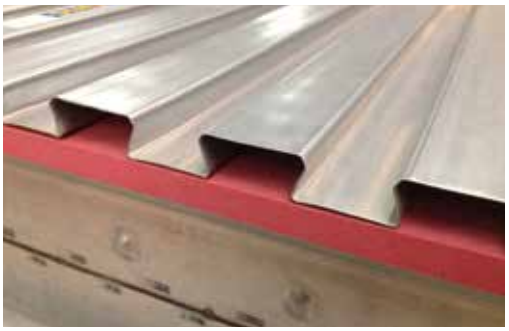
Features of SYLOMER® TSS

- permanent elastic behavior
- suitable for high load bearing performance requirements
- resistant to ageing
- highly stable material
- low installation height (12 mm)

Design information

Joist and beam centres, spans, load bearing requirements and weight of the LEWIS® floor must be taken into account prior to for the selection of the appropriate SYLOMER® TSS resilient strip.
To select the appropriate type of SYLOMER® TSS please make use of the design table below.

The design table is based on the building categories according to EN 1991-1-1, table 6.1.
For deviating load bearing capacities please feel free to contact us.



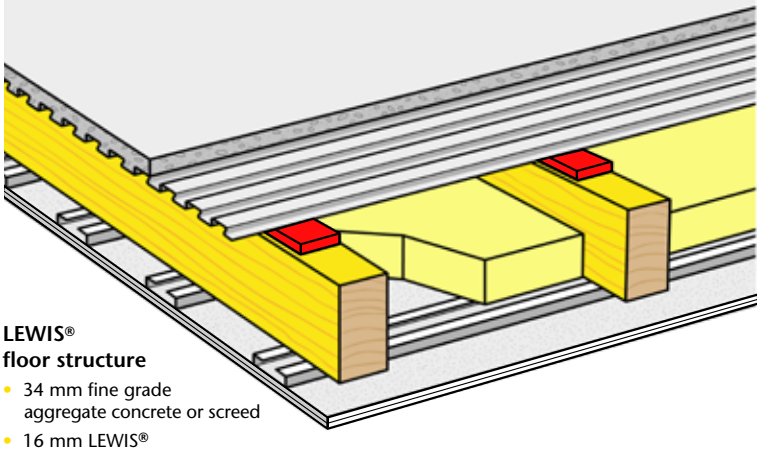
Design table LEWIS® acoustic floors with SYLOMER® TSS

Category	specific use		qk (kN/m²)	Qk (kN)	LEWIS® floor thickness	centre to centre span of the beams (m¹)									
						0,6	0,7	0,8	0,9	1	1,1	1,2	1,3	1,4	1,5
A	Areas for domestic and residential activities		2,0	2,0	50 mm/1,06 kN/m²										
B	Office areas		3,0	4,5	50 mm/1,06 kN/m²										
C	Areas where people may congregate	C1	3,0	4,0	50 mm/1,06 kN/m²										
	(with the exception of areas	C2	4,0	4,0	50 mm/1,06 kN/m²										
	defined under categories A, B and D)	C3	5,0	4,0	50 mm/1,06 kN/m²										
		C4	5,0	7,0			Not possible for LEWIS® due to high concentrated load								
		C5	5,0	4,5	50 mm/1,06 kN/m²										
D	Shopping areas	D1	4,0	4,0	50 mm/1,06 kN/m²										
		D2	5,0	7,0			Not possible for LEWIS® due to high concentrated load								

Assumptions

- actions according to EN 1991-1-1, table 6.1
- concentrated load area dimensions 50 mm x 50 mm
- no free edges in categories B, C and D
- concrete C20/25
- reinforcement mesh Ø5-150 (Q131) or Ø6-200 (A142) for floor thickness 50 mm in categories B, C and D

TSS | TSS | op aanvraag



LEWIS® floor structure

- 34 mm fine grade aggregate concrete or screed
- 16 mm LEWIS® Dovetailed sheeting
- 12 mm SYLOMER® TSS
- 220 mm joists
- 100 mm mineral wool
- 2 x 12,5 mm plasterboard ceiling

Properties

Airborne sound: Rw = 73 dB
Impact sound : Lnw = 46 dB
Fire resistance : F = 90 minutes

Installation notes

- SYLOMER® TSS strips are laid directly on the joists or existing timber floor.
- Height differences in the existing structure must be dealt with to allow the SYLOMER® TSS bearing surface to be level and hozotal.
- The surface of the floor structure must be clean and free from nails, mortar and residues etc.
- If the strips require to be fixed during installation an elastic adhesive should be used.
- No mechanical fixing as any potential of "sound-bridging" must be avoided
- SYLOMER® TSS strips can be cut to size using a sharp retractable knife.
- LEWIS® metal decking must be installed according to the LEWIS® standard fixing and installation instructions as produced by REPPEL b.v.

Technical details LEWIS® Dovetailed sheeting

Weight	:	0,058 kN/m²
Nominal width	:	630 mm
Effective width	:	580 mm
Standard lengths	:	1,220 mm, 1,530 mm
		1,830 mm, 2,000 mm, 2,500 mm
Length range:	:	800 – 6,000 mm

SYLOMER® TSS strips

Type	:	red / blue
Thickness	:	12 mm
Width	:	80 mm
Roll lengths	:	5000 mm

Installation height of a LEWIS® acoustic floor is ≥ 62 mm

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