LEWIS®

on CDM MTA resilient strips

LEWIS® Dovetailed metal decking is used as reinforcement and formwork in thin concrete floors that are placed on wooden beam layers and light steel structures. The sheeting is finished with a thin layer of fine grade aggregate concrete or a screed. The composite action between LEWIS® Dovetailed metal decking and the concrete/screed ensures a rock-solid LEWIS® floor.

CDM MTA strips

The MTA strips have been developed by CDM, which is a leading global specialist in acoustics. The strips are made from high-grade SBR granulate rubber with PU-bound elastomer. The rubber granulate has been recycled from used car tyres.

One of the advantages of LEWIS® CDM MTA rubber granulate strips is that the material can also be used for high loads and at long centre-to-centre distances from the supporting structure. The LEWIS® CDM MTA strips are available in types MTA 5 and MTA 15/7.

Common applications for LEWIS® Dovetailed sheeting

- on existing timber joists or steel beam constructions
- partition floors
- floor upgrading when building functions are changed
- floor constructions in timber frame construction (TF)
- floor constructions in light steel frame (LSF) construction systems

LEWIS

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MTA 5 strips

MTA 5 has a thickness of just 5 mm and is ideal for suspended LEWIS® floors where a high acoustic performance is needed with an extremely low installation height. This material is mainly used for acoustic LEWIS® floors in light steel frame construction. Because the material is very thin, MTA 5 is not suitable for use on wooden floor boards. The MTA 5 strip is 80 mm wide and is supplied on roll lengths of 10 m.

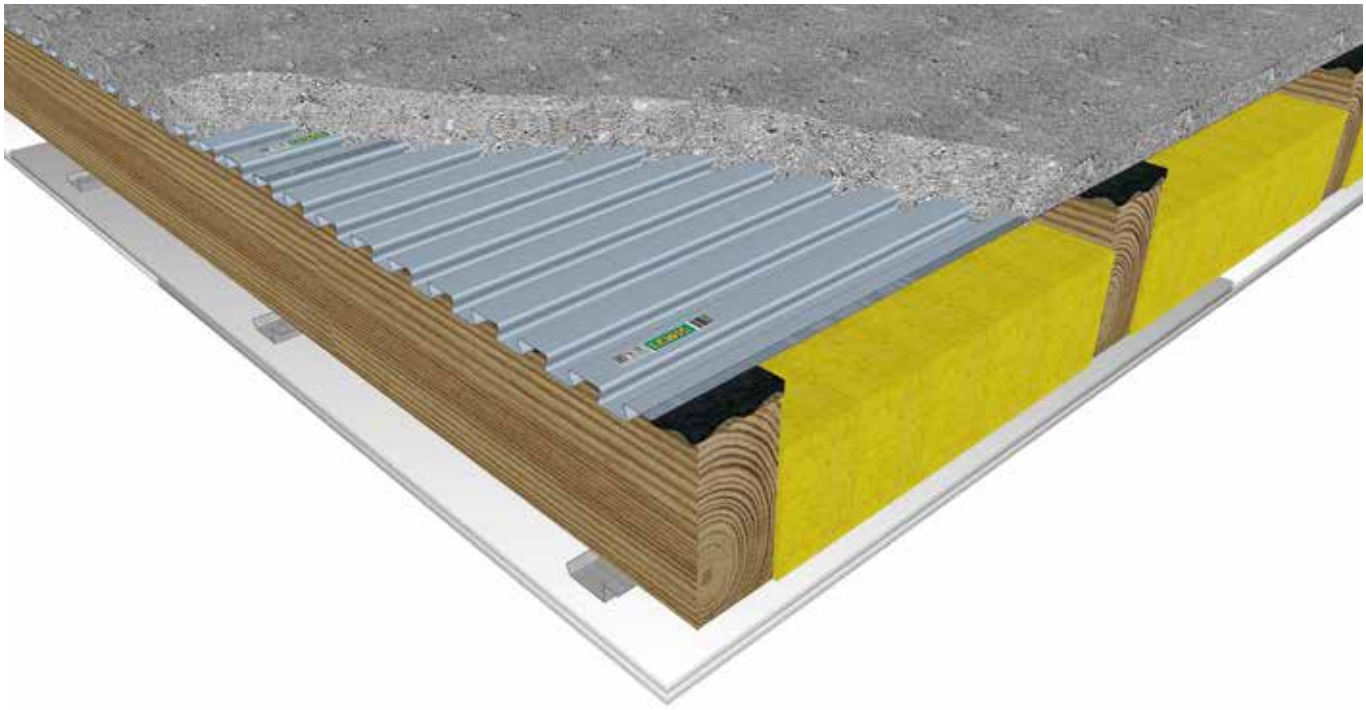
MTA 15/7 strips

MTA 15/7 is a 15 mm-thick special waved rubber granulate that is used for suspended LEWIS® floors on (existing) timber joists or steel beams where very high impact sound insulation must be realised. The MTA 15/7 strip is 98 mm wide and is supplied on roll lengths of 5 m. Successful acoustic tests have been carried out in cooperation with the University of Eindhoven and Level Acoustics & Vibration on LEWIS® acoustic floor constructions featuring LEWIS® CDM MTA resilient strips.

Features of LEWIS® CDM MTA

- permanent elastic behaviour
- extremely low creep
- recycled material
- suitable for high load bearing performance requirements
- highly stable material

LEWIS® on CDM MTA resilient strips



TYPE MTA	DENSITY*	MAX. STAT. LOADING	MAX. TIME. LOADING	CREEP**	RESONANCE FREQUENCY	COMPRESSION	CDYN***
MTA 5	710 kg m^3	0,3 Mpa	3 Mpa	1% H/DEC	60 Hz	< 1,5 mm	35 MN/m^3
MTA 15/7	710 kg m^3	0,15 Mpa	2 Mpa	0,8% H/DEC	25 - 30 Hz	< 5 mm	13 MN/m^3

(*)ISO 845 - (**)ISO 8013, at 0.091 MPa - (***)EN 29052-1

Floor advice

A LEWIS® floor can serve as a suitable floor solution for just about any project. The specialists at REPPEL will use acoustic specifications and other project related building requirements to find the ideal LEWIS® floor construction. Please feel free to contact us for technical advice.

LEWIS® floor thickness of 60 to 65 mm helps to improve the specified airborne and impact sound insulation by approx. 1 dB. Contact us for technical advice in case of beams with centre distances > 1200 mm and/or for distributed floor loads > 2.5 kN/m^2.

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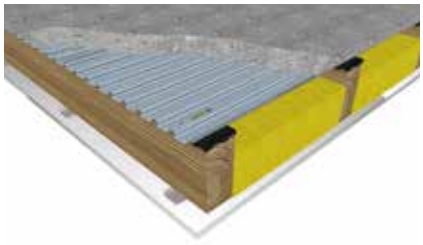
Requirements acoustic separating floor

New build	Airborne sound	Impact sound
England & Wales	$D_nT,w + Ctr \geq 45$ dB	$L_nT,w \leq 62$ dB
Scotland	$D_nT,w \geq 56$ dB	$L_nT,w \leq 56$ dB
Ireland	$D_nT,w \geq 53$ dB	$L_nT,w \leq 62$ dB
Conversion / change of use		
England & Wales	$D_nT,w + Ctr \geq 43$ dB	$L_nT,w \leq 64$ dB
Scotland	$D_nT,w \geq 53$ dB	$L_nT,w \leq 58$ dB

LEWIS® acoustic floors

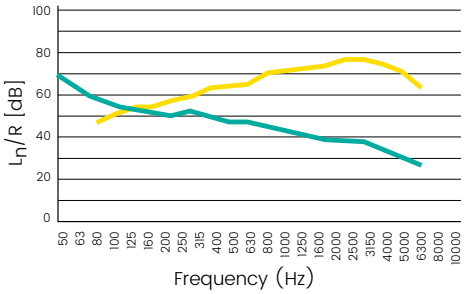
Timber joists with MTA 15/7



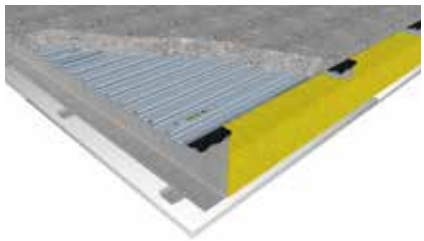
LEWIS® Deck	50 mm (107 kg/m²)
CDM MTA 15/7	15 x 98 mm
Timber joists c.t.c. 600 mm	200 x 100 mm
Mineral wool	140 mm
Spring stirrups	27 mm
Gypsum board	2 x 12,5 mm

Airborne sound
Rw ($C_{100-3150}$, $C_{tr\ 100-3150}$) 68 (-2,-6)dB
DnT.w + Ctr 58 dB
DnT.w 64 dB
Impact sound
Ln,w ($C_{I\ 100-2500}$, $C_{I\ 50-2500}$) 48 (-1,7)dB
LnT,A 51 dB

Acoustic performance Rw Ln,w



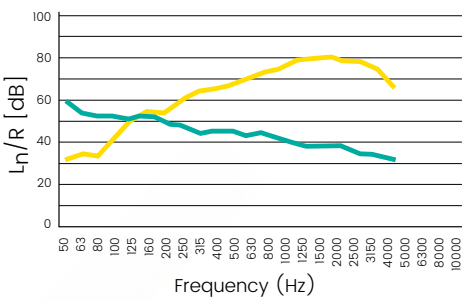
Light Steel Framing with MTA 15/7



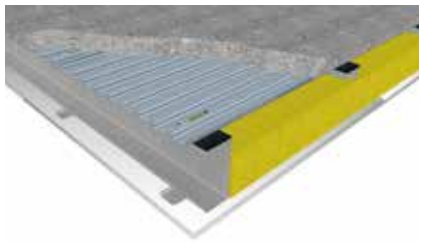
LEWIS® Deck	50 mm (107 kg/m²)
CDM MTA 15/7	15 x 98 mm
LSF C-joists c.t.c. 600 mm	200 x 80 mm
Mineral wool	140 mm
Spring stirrups	27 mm
Gypsum board	2 x 12,5 mm

Airborne sound
Rw ($C_{100-3150}$, $C_{tr\ 100-3150}$) 70 (-3,-9) dB
DnT.w + Ctr 57 dB
DnT,w 66 dB
Impact sound
Ln,w ($C_{I\ 100-2500}$, $C_{I\ 50-2500}$) 48 (-3, 0) dB
LnT,w 52 dB

Acoustic performance Rw Ln,w



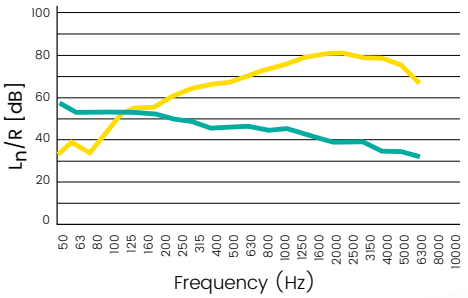
Light Steel Framing with MTA 5



LEWIS® Deck	50 mm (107 kg/m²)
CDM MTA 5	5 x 80 mm
LSF C-joists c.t.c. 600 mm	200 x 80 mm
Mineral wool	140 mm
Spring stirrups	27 mm
Gypsum board	2 x 12,5 mm

Airborne sound
Rw ($C_{100-3150}$, $C_{tr\ 100-3150}$) 69 (-2,-8) dB
DnT.w + Ctr 57 dB
DnT.w 65 dB
Impact sound
Ln,w ($C_{I\ 100-2500}$, $C_{I\ 50-2500}$) 54 (-6,-4) dB
LnT,w 58 dB

Acoustic performance Rw Ln,w



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