

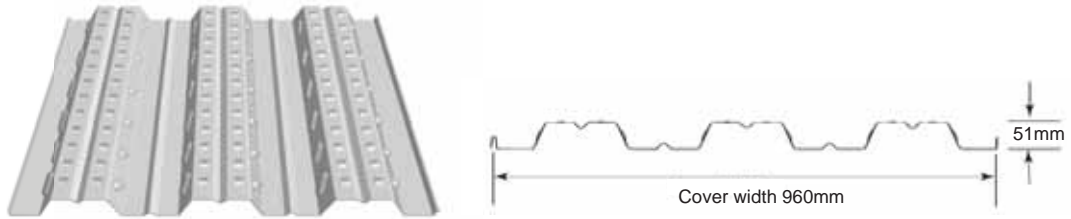


LYSAGHT



LYSAGHT® SMARTDEK®

An Appealing Steel
Decking Profile with
Broader Span

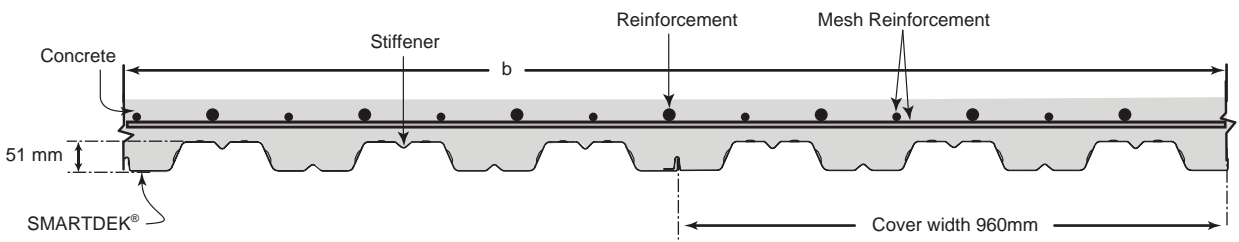
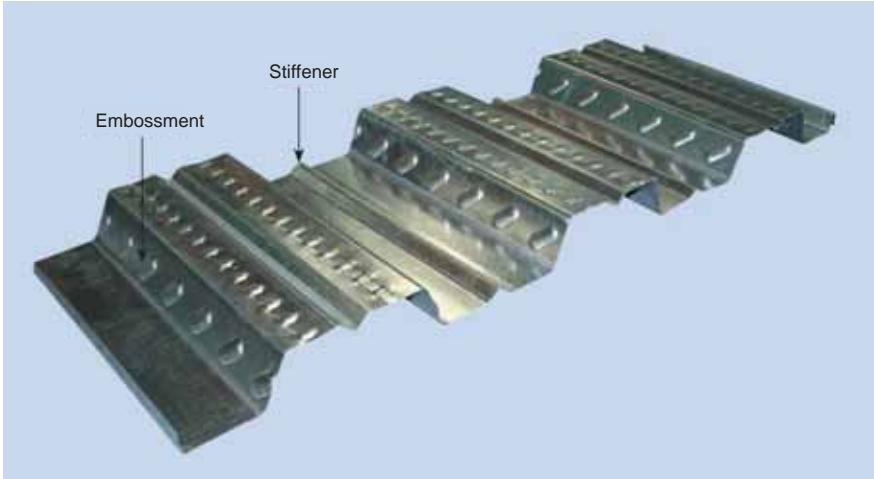


LYSAGHT® SMARTDEK® is an innovative high strength zinc-coated steel decking system designed for use in the construction of composite floor slabs. It is suitable for typical application as it provides widest cover per weight of steel and minimizes the requirement for reinforcement. It acts as a permanent formwork for a composite concrete slab, which in its assembled state can be used as a working platform as well as a formwork to support wet concrete, construction materials and trades. When the concrete hardens, it acts as the bottom tensile reinforcement provided composite slab design is taken into consideration.

Designed to Perfection

LYSAGHT® SMARTDEK® is an innovative “W” profile structural steel decking system. It brings greater economy and design freedom as it is precision engineered and provides ease of use as well as safety. SMARTDEK® system has excellent spanning capacities that ensure greater strength and less deflection.

SMARTDEK® panel has a rib depth of 51mm and provides an effective cover width of 960mm. Embossments at the top of the flange provide excellent mechanical interlocking between steel and concrete. In the assembled state, the profile comprises of intermediate male and female ribs for every interlocking side-lap joint.



Scan for online resources

MATERIAL SPECIFICATION & SECTION PROPERTIES

Thickness (BMT) (mm)	Self-Weight (kg/m ²)	Full Cross-Sectional Area (mm ² /m)	Zinc Coating (g/m ²) *	Steel Grade (MPa) **	Inertia Moment Lx ³ (mm ² /m)	Section Modulus Zx ¹ (mm ² /m)
0.75	7.84	953.0	275	550	438,645.11	16,217.18
1.00	10.34	1269.7	275	550	526,562.50	19,479.17
1.20	12.33	1523.9	275	550	701,979.17	25,958.33

Note:

The steel conforms to AS1397 and BS EN 10147

* Nominal coating thickness

** Minimum yield strength of steel

BENEFITS OF LYSAGHT® SMARTDEK® SYSTEM

Features	Benefits	
	Technical	Commercial
G550 Steel Grade	Increase free span	Less support
	Stiffer profile no indentation after support removed	Saving cost for formwork
3mm Embossment	Better composite action	Optimize reinforcement design
	Able to receive high intensity of loading without additional bottom reinforcement	
	Enhance design for fire capacity	Optimize overall design
960mm Effective Width	Fit with most column grid, no waste	Saving cost for material waste
		Less on site cutting needed, improve safety
MEGAFLOOR Software	Ultimate tool to design decking as formwork, composite and fire.	Fast in designing composite slab.
		Less resource for planning the usage of SMARTDEK®

Smart Software

MEGAFLOOR structural decking software for the design of composite slabs with SMARTDEK® profile will be available to assist engineers and consultants in deriving an optimal solution.

Smart Construction

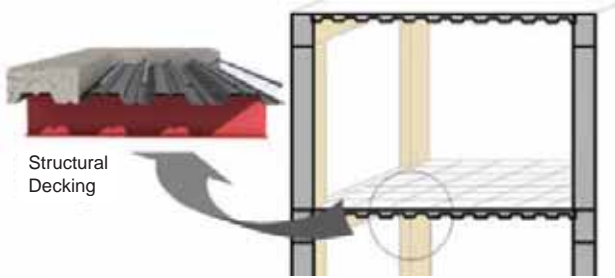
SMARTDEK® system provides a safe working platform that is fast and easy to set up and therefore minimizes multi-storey construction time. Faster construction time allows optimization on construction schedule delivering faster value to the developers.

Smart Application

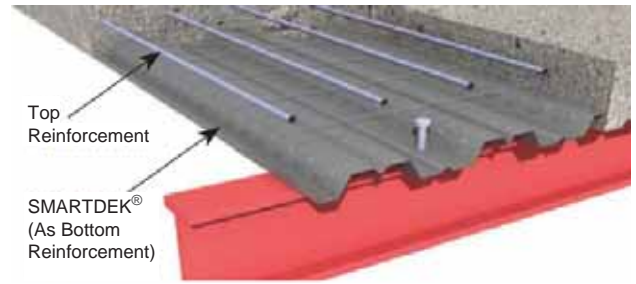
Besides its application in composite floors in multi-storey buildings and commercial establishments, it is extensively used for Mezzanine applications. Corrosion resistant coating makes it the best solution for typical applications like parking sheds, where SMARTDEK® system provides better appearance to exposed ceilings.

LYSAGHT® SMARTDEK® DECKING FLOOR

SMARTDEK® acts as an integral structural element



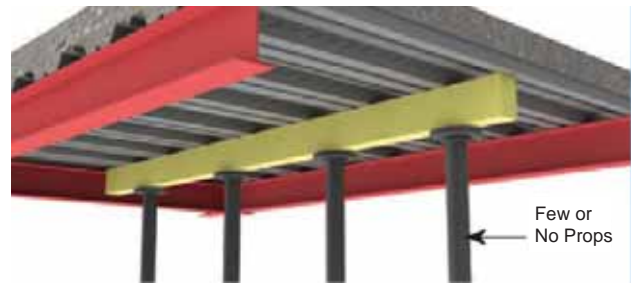
SMARTDEK® acts as bottom tensile reinforcement – Steel saving



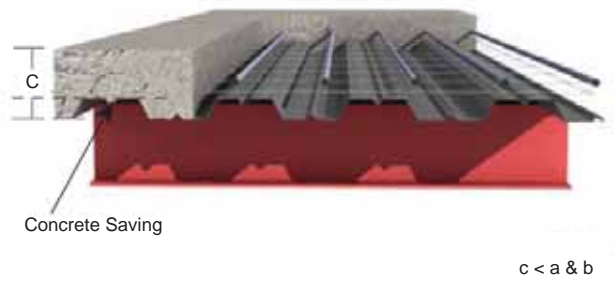
Embossments provide mechanical interlock between steel and concrete.



High tensile steel (G550) provides large unpropped spans



Concrete saving makes construction economical.



SMARTDEK® application delivers faster value to developers.



LYSAGHT® SMARTDEK® SPECIFICATION

Span Table (Formwork Stage)

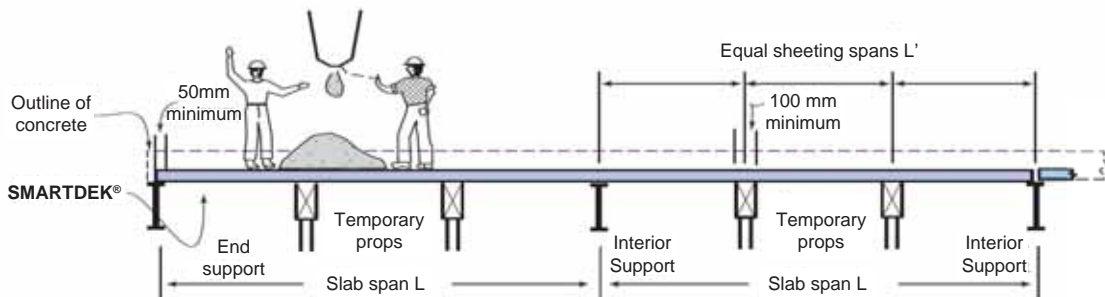
Span Type	Single			Continuous End			Continuous Interior			
	0.7	1.0	1.2	0.7	1.0	1.2	0.7	1.0	1.2	
Slab Thickness (mm)	BMT	0.7	1.0	1.2	0.7	1.0	1.2	0.7	1.0	1.2
	100	2380	2740	2800	2640	3410	3200	2640	3280	3200
	110	2310	2650	2780	2550	3320	3110	2550	3170	3110
	120	2230	2570	2700	2470	3230	3020	2470	3070	3020
	130	2170	2500	2620	2400	3150	2930	2400	2990	2930
	140	2110	2430	2560	2330	3080	2850	2330	2900	2850
	150	2060	2370	2500	2270	3000	2770	2270	2800	2770
	160	2010	2330	2440	2210	2930	2700	2210	2710	2700
	170	1960	2260	2390	2160	2850	2640	2140	2630	2640
	180	1920	2230	2340	2110	2790	2580	2080	2550	2580
	200	1840	2150	2180	2030	2670	2470	1870	2300	2470

- * Allowable span based on No Prop condition.
- * Deflection based on L/130, wet concrete density of 24kN/m³.
- * Maximum construction-imposed load is 1.5kPa.

Formwork Design – Design for Strength

The SMARTDEK® formwork shall be designed in accordance with BS 5950: Part 4: 1994 and BS 5950: Part 6: 1995 and Technical Note 116: Design of profile sheeting as permanent formwork.

SMARTDEK® bending capacities have been confirmed by tests conducted as Lysaght Technology Laboratory at Chester Hill, Sydney, Australia



LYSAGHT® SMARTDEK® formwork (double span) with two rows of propping

Tested to Extreme Conditions

SMARTDEK® panels have been subjected to rigorous tests such as slip block test, formwork tests including shear and bearing, full scale slab test, composite slab cycle test, fire rating test, formwork-air pressure test, formwork-four-point load test and concentrated load test. These tests are carried out in the labs of LYSAGHT® Technology Laboratory in Chester Hill, Sydney, Australia, to ensure maximum performance and quality of our decking profiles.



Formwork - Point Load



Formwork - Air Pressure Test



Composite - Slip Block Test



Fire Test - Victoria University

Quality Assurance

The LYSAGHT® brand name is synonymous with quality and performance. As with all other LYSAGHT® products, SMARTDEK® steel sheets comply with major design standards adopted across Asia. Manufactured using high tensile steel, it is optimally configured and uses advanced design and construction method.

Note: All the product images used in this brochure are for reference purposes only and do not reflect the actual configuration of the product. Kindly note that the product images are indicative and for illustration purposes only. Lysaght reserves the right to make any change to product images without prior notice. For accurate and up-to-date information, seek advice from Lysaght representative.

REFERENCES



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