



FLOOR DECK | ROOF DECK | CONCRETE

SCOTLAND'S METAL DECKING CONTRACTOR



THRUDECKServices
Metal Decking Contractors

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A SOLID REPUTATION

Our solid reputation for excellent quality products and end-to-end service delivery make Thru Deck (TDS) the preferred composite metal decking contractor for many leading building contractors and steelwork fabricators. Our clients work to exacting standards, timescales and budgets.

By tightly controlling our labour and resources at all stages – from the manufacture of the profiles through to the finished deck assembly – we are able to provide unrivalled levels of flexibility and control.

Our focus on flexibility means we are able to deliver either an end-to-end service, or specific elements within the construction of composite metal decking, depending on the needs of the specific project.

CUSTOMER SATISFACTION

Having been involved in composite decking projects since 2003, Thru Deck understands the importance of reliability, quality and excellent service. We are committed to client satisfaction and have built a reputation for a professional and personal service.

From our base in Coatbridge, between Glasgow and Edinburgh, we thrive on being Scotland's local metal decking contractor.

Thru Deck



OUR APPROACH



QUALITY

Our floor and roof deck products are manufactured from steel strip in line with industry standards BS EN 10143 and BS EN 10346.



SAFETY

Experience has shown us that construction is a hazardous industry. We prioritise the development of Health & Safety processes to maintain a positive approach when on site.



SERVICE

Flexibility is a key driver for delivering excellent customer service to our clients – and one reason why we enjoy such a high level of repeat business.



SUSTAINABILITY

We are committed to working efficiently and effectively, protecting our environmental and economic resources, as well as operating in socially responsible ways.



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RELIABLE SERVICE

DESIGN, SUPPLY & INSTALLATION

Design | Service accompanied with unrivalled technical support

Part of our supply and installation package includes the production and approval process of our metal deck drawings. Modelled in 2D and 3D, our design team is the best in the business when it comes to raising potential issues or problems before they get to site.

Using the engineer's steel fabrication and slab layout drawings we create our own pack and sheet placement layouts to aid the swift installation of our materials.

Our drawings should be used for pack placement when the deck materials are delivered to site for ease of access along with minimising H&S working at height issues that challenge our site teams.

What we do

- Production of metal deck placement drawings
- Design and approval process with our clients and engineers
- Drawings updated to changes or information by the client

Supply | Get your materials on site when you need them!

We send your materials to site on the day AND time that you request.

By liaising with our Contract Teams, we can arrange the delivery of specific materials to site (based on steel or site phasing), so you're never waiting for materials or having to find room to store materials that aren't yet required.

What we do

- Manage the ordering process, confirming the materials that will be delivered on the day AND time requested (to ensure delivery dates are met, we encourage our clients to give two weeks' lead in)
- Arrange all transportation of materials to site
- Changes to deliveries can be made up to 48 hours before delivery is scheduled (charge may apply after this time)

Installation | We do all the hard work so you don't have to!

TDS offers a fully compliant installation service for floor deck, roof deck and concrete placement, carried out by directly employed site operatives located throughout the UK.

All our operatives are fully trained and all hold the appropriate Health & Safety qualifications to operate safely and efficiently on site.

What we do

- Attend pre-contract meetings to discuss specific contract requirements
- Weekly updates on programme and progress
- Fall arrest (safety netting)
- Floor and roof deck installation
- Thru-deck stud welding
- Concrete placement



FLOOR DECK | ROOF DECK | CONCRETE

PRODUCTS & SERVICES

METAL FLOOR DECKING



Metal decking continues to provide the best fast-track, flexible, and financially-effective solution for suspended floor slabs in steelwork construction.

Thru Deck has access to the full range of Structural Metal Decks (SMD) products, providing a solution for all suspended floor slab requirements, including concrete installation on metal decking.

TDS provides a comprehensive service in design, manufacture, supply and installation of metal deck, shear stud welding concrete.

Profile	Gauges Available mm						Grade		TAB-Deck™ Fibre Concrete	Coatings				Options
	0.8	0.9	1.0	1.2	1.13	1.25	S350	S450		Galv (Z275)	HD (ZM310)	Plastisol (PF)	Interior Liner	
R51+	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	-
TR60+	-	✓	✓	✓	-	-	✓	✓	✓	✓	✓	-	-	-
TR80+	-	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	✓
TR220	-	-	-	-	✓	✓	✓	-	-	✓	-	-	✓	-

If you are looking for a formwork-only solution or a product to form part of a structural composite slab, we have a range of floor deck profiles to suit all project and design drivers.

Associated products and services

- Design service
- Fall arrest
- VoidSafe® Protection System
- Shear studs
- Concrete placement

Benefits

- Provides tensile reinforcement to the composite slab
- Reduces steelwork frame weight
- Manufactured from steel strip to BS EN 10143 and BS EN 10346
- Can achieve up to 4hr fire rating for the slab

DOWNLOAD OUR SPAN TABLES AND DATA SHEETS



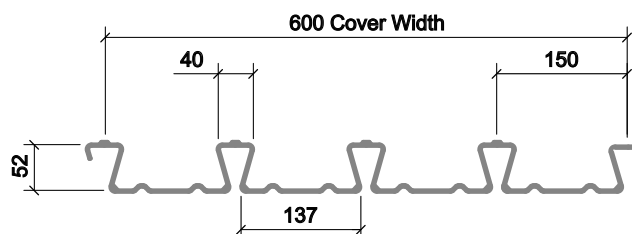
Floor Profiles



Coatings & Options

METAL FLOOR PROFILE

R51+



Description

Updated from the original R51 product in 2018, this profile is available in S350 and S450 grades to provide the designer with greater flexibility. R51+ is a traditional re-entrant profile commonly used on inner city multi-storey projects where the structural zone and storey height is reduced, due to the relatively thin slab depth required to achieve a typical one hour fire rating.

Benefits

- 102mm minimum slab depth
- Optimised to maximise structural efficiency of steel
- 150mm trough spacings provide flexibility for stud placement
- TAB-Deck™ fibre concrete option

Gauges

- 0.8mm
- 0.9mm
- 1.0mm
- 1.2mm

Specification

- 600mm cover width
- 52mm deep

Steel Grade

- S350
- S450



Finishes

- Galvanised (Z275)
- HD (ZM310)

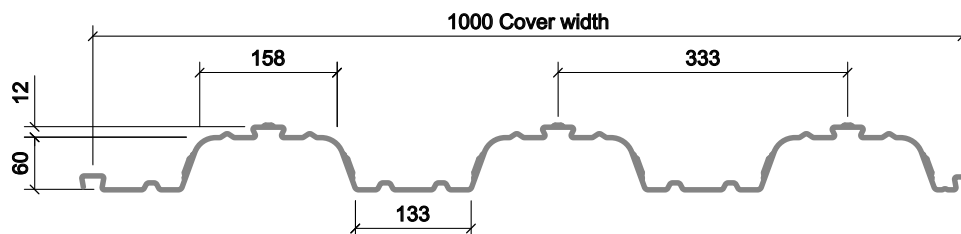
Profile Properties

Nominal Thickness mm	Design Thickness (bare steel) mm	Weight of Profile kg/m ²	Weight of Profile kN/m ²	Height of Neutral Axis mm	Area of Steel mm ² /m	Moment of Inertia cm ⁴ /m
0.8	0.76	12.02	0.118	15.80	1464	56.9
0.9	0.86	13.54	0.133	16.20	1657	61.3
1.0	0.96	15.01	0.147	16.50	1845	68.7
1.2	1.16	17.98	0.176	17.00	2223	85.6

Section properties are calculated assisted by testing in accordance with Eurocode 3.

METAL FLOOR PROFILE

TR60+



Description

The TR60 profile was SMD's first trapezoidal profile, added to our product range in 1992. Further research and development in recent years has seen our trapezoidal products evolve into the TR+ range. The TR60+ profile enables un-propped spans in excess of 3.5m.

Benefits

- Reduced concrete volume
- Enhanced speed of installation due to the 1m cover width
- Trough stiffeners positioned to ensure central stud position
- TAB-Deck™ fibre concrete option

Gauges

- 0.9mm
- 1.0mm
- 1.2mm

Specification

- 1000mm cover width
- 60mm deep (72mm to top re-entrant)

Steel Grade

- S350
- S450

Finishes

- Galvanised (Z275)
- HD (ZM310)



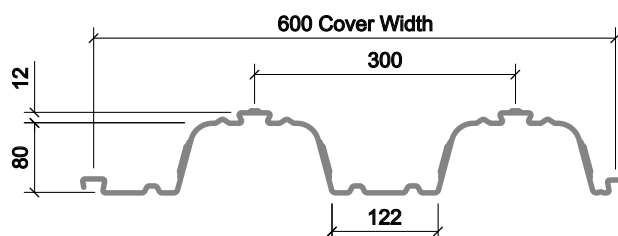
Profile Properties

Nominal Thickness mm	Design Thickness (bare steel) mm	Weight of Profile kg/m ²	Weight of Profile kN/m ²	Height of Neutral Axis mm	Area of Steel mm ² /m	Moment of Inertia cm ⁴ /m
0.9	0.86	10.03	0.098	33.6	1216	93.5
1.0	0.96	11.12	0.109	33.6	1355	102.1
1.2	1.16	13.33	0.131	33.7	1633	119.8

Section properties are calculated assisted by testing in accordance with Eurocode 3.

METAL FLOOR PROFILE

TR80+



Description

Initially added to our product range in 2002, the original TR80 has undergone further research and development, evolving to the popular TR80+ profile in use today. This 80mm deep trapezoidal profile offers long un-propped spans reducing the number of structural support members required, making it a popular choice for low to medium storey buildings.

Benefits

- Reduced concrete volume compared to other deck available
- 140mm slab depth required to achieve a typical one hour fire rating
- TAB-Deck™ fibre concrete option

Gauges

- 0.9mm
- 1.0mm
- 1.2mm

Specification

- 600mm cover width
- 80mm deep (92mm to top re-entrant)

Steel Grade

- S350
- S450



Finishes

- Galvanised (Z275)
- HD (ZM310)
- Crushed Ends option
- Plastisol (PF)

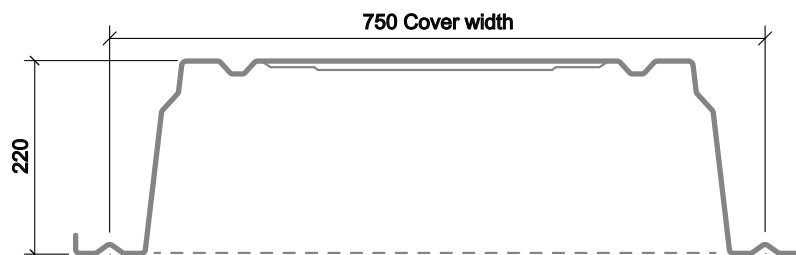
Profile Properties

Nominal Thickness mm	Design Thickness (bare steel) mm	Weight of Profile kg/m ²	Weight of Profile kN/m ²	Height of Neutral Axis mm	Area of Steel mm ² /m	Moment of Inertia cm ⁴ /m
0.9	0.86	11.33	0.111	42.30	1385	172.9
1.0	0.96	12.54	0.123	42.40	1539	192.3
1.2	1.16	15.06	0.148	42.50	1860	231.1

Section properties are calculated assisted by testing in accordance with Eurocode 3.

METAL FLOOR PROFILE

TR220



Description

The additive floor TR220 combines the high strength of the 220mm deep steel deck profile with the performance of a ribbed reinforced concrete slab to provide a long span floor solution. The use of TR220 installed to bottom flanges provides a slim floor construction to reduce the structural zone without the need for intermediate supports.

Benefits

- Un-propped spans up to 6m
- Lightweight compared to other long-span flooring solutions
- Reduces structural floor zone, utilising slab depth within beam web

Gauges

- 1.13mm
- 1.25mm

Specification

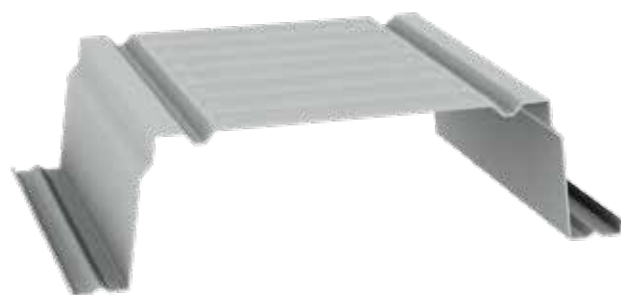
- 750mm cover width
- 220mm deep

Steel Grade

- S350

Finishes

- Galvanised (Z275)
- Interior liner



Profile Properties

Nominal Thickness mm	Design Thickness (bare steel) mm	Weight of Profile kg/m ²	Weight of Profile kN/m ²	Height of Neutral Axis mm	Area of Steel mm ² /m	Moment of Inertia cm ⁴ /m
1.13	1.09	14.80	0.150	159.90	1681	1374.2
1.25	1.21	16.40	0.160	159.90	1866	1525.5



VOIDSAFE® PROTECTION SYSTEM

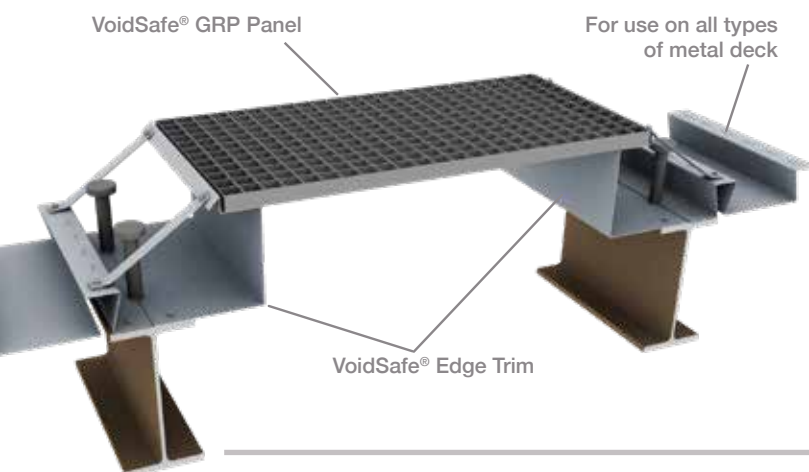
The VoidSafe® Protection System can significantly improve safe access and site logistics throughout the floor area.

With a large range of site safety, services and access products available on the market, a solution that not only improves safety and access, but reduces programme times and eliminates the need for additional trades and their associated costs is a significant advantage. Use of VoidSafe® Protection System can benefit site logistics throughout the floor areas of your project.

We're dedicated to minimising risk on construction sites and this non-slip, void covering solution can be installed along with the decking to provide safe working around

service openings. The requirement for hand-railing supply, installation and maintenance is removed, with subsequent reduction in cost and programme duration.

Bespoke edge trim is used to form the slab edge and to provide a shelf support for the VoidSafe® panels. Void trimming steels must be in place to enable the edge trim to be positioned and it's important to ensure that clashes between the edge trim and any shear studs on the beams are avoided.



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AND DATA SHEETS**



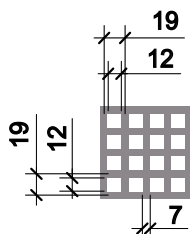
VoidSafe® Products

FLOOR DECK OPTION

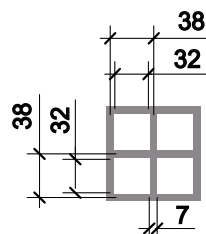
VoidSafe® Protection System



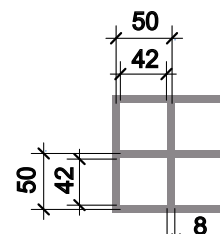
VSX



VS19



VS38



VS50

Description

Our VoidSafe® Protection System can significantly improve site logistics and safe access throughout the floor area. We're dedicated to minimising risk on construction sites, and this non-slip, void covering solution can be installed along with the decking to eliminate the need for additional trades (such as handrailing contractors) as well as reducing programme times.

Benefits

- Installed as part of the deck operations
- Provide a safety system that reduces interface between trades on site and results in both cost and time savings
- Services easily incorporated*

Depth

- 38mm
- 50mm

Specification

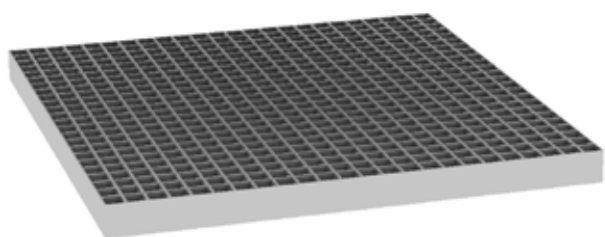
- 1220mm x 3660/4000mm sheet size (or cut to size)

Material

- Polyester
- Isophthalic
- Phenolic

Finishes

- Gritted non-slip surface



Profile Properties

Product	Grid Centres (mm)	Voided Area	Top Surface Grid Hole (mm)	Depth (mm)	Colour Options				Panel Weight (kg/m²)
					Green	Yellow	Red	Grey	
VSX	38*	0%	No Holes	38	✓	✓	✓	✓	-
VS19	19/38*	40%	12	38	✓	✓	✓	✓	23.5
VS38	38	67%	32	38	✓	✓	✓	✓	19.5
VS50	50	72%	42	50	✓	✓	✓	✓	23.7

* Additional support may be required when forming holes in VoidSafe® panels

** VSX is manufactured on a 38mm mesh grid panel with a solid top surface. *** VS19 is manufactured on a 38mm mesh grid panel with a 19mm grid top surface.



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PRODUCTS & SERVICES



METAL ROOF DECKING

Whether you require products to span short distances between purlins or longer spans onto hot-rolled steel beams, our range provides the design flexibly to suit all project requirements.

Should your project require a more durable or aesthetic appearance, an interior liner option and coloured polyester coatings are available on request.

Profile	Gauges Available mm								Grade		Material		Finishes
	0.7	0.75	0.88	0.9	1.0	1.2	1.25	1.5	S320	S350	Steel	Aluminium	Perforated
SR30+ SR35+ SR60+ SR100+	✓	-	-	✓	-	✓	-	-	-	✓	✓	-	✓
SR135 SR153 SR158 SR200	-	✓	✓	-	✓	-	✓	✓	✓	-	✓	✓	✓

SR products are typically used in a variety of built-up systems including; single ply membrane, double skin, standing seam, green roofs and asphalt.

Associated products and services

- Design service
- Fall arrest

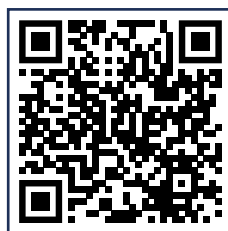
Benefits

- Typically used as the structural deck (tray) for insulated roof systems
- Manufactured from steel strip to BS EN 10143 and BS EN 10346
- Longer spans result in less secondary steelwork

DOWNLOAD OUR SPAN TABLES AND DATA SHEETS



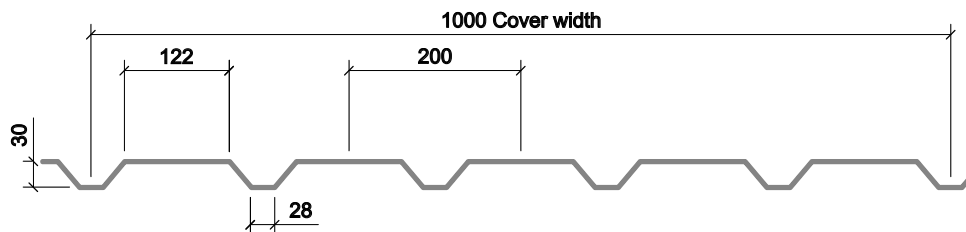
Roof Profiles



Coatings & Options

METAL ROOF PROFILE

SR30+



Description

Profile typically used as the structural deck for single ply membrane, double skin built-up, standing seam, green roof and asphalt systems. Also available as part of the Protex Insulated System.

Benefits

- Can be manually installed with limited need for additional lifting plant
- Enhanced speed of installation due to 1m cover width
- Large upper flat area for ease when fixing roof build-up

Gauges

- 0.7mm
- 0.9mm

Specification

- 1000mm cover width
- 30mm deep

Steel Grade

- S350

Coatings and Finishes

- Galvanised Steel
- Interior liner



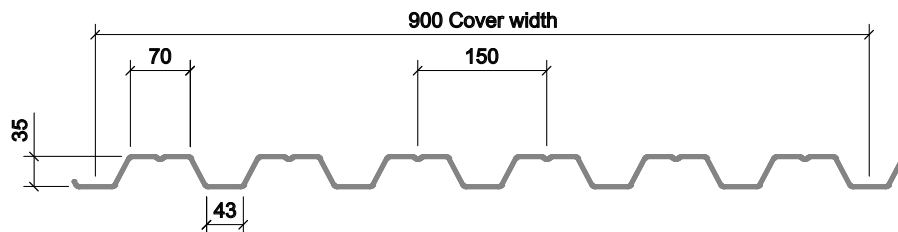
Profile Properties

Nominal Thickness mm	Coating/Finish	Weight kg/m ²	Weight kN/m ²	Top Flange in Compression		Bottom Flange in Compression	
				Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m
0.70	Galvanised Steel	6.66	0.07	1.45	6.20	1.54	9.5
0.90	Galvanised Steel	8.57	0.08	2.19	8.80	2.18	13.2

Section properties are calculated assisted by testing in accordance with Eurocode 3.

METAL ROOF PROFILE

SR35+



Description

Profile typically used as the structural deck for single ply membrane, double skin built-up, standing seam, green roof and asphalt systems. Also available as part of the Protex Insulated System.

Benefits

- Can be manually installed with limited need for additional lifting plant
- Enhanced speed of installation due to 0.9m cover width

Gauges

- 0.7mm
- 0.9mm
- 1.2mm

Specification

- 900mm cover width
- 35mm deep

Steel Grade

- S350

Coatings and Finishes

- Galvanised steel
- Interior liner



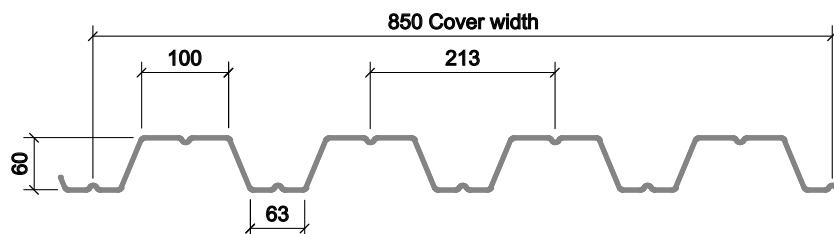
Profile Properties

Nominal Thickness mm	Coating/Finish	Weight kg/m ²	Weight kN/m ²	Top Flange in Compression		Bottom Flange in Compression	
				Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m
0.7	Galvanised Steel	7.40	0.07	3.42	20.1	2.95	19.8
0.9	Galvanised Steel	9.52	0.09	4.26	23.5	4.16	22.4
1.2	Galvanised Steel	12.72	0.12	7.45	35.7	6.60	35.7

Section properties are calculated assisted by testing in accordance with Eurocode 3.

METAL ROOF PROFILE

SR60+



Description

Profile typically used as the structural deck for single ply membrane, double skin built-up, standing seam, green roof and asphalt systems. Also available as part of the Protex Insulated System.

Benefits

- Can be manually installed with limited need for additional lifting plant
- Enhanced speed of installation due to 0.85m cover width
- Perforated option available for enhanced acoustic performance

Gauges

- 0.7mm
- 0.9mm
- 1.2mm

Specification

- 850mm cover width
- 60mm deep

Steel Grade

- S350

Coatings and Finishes

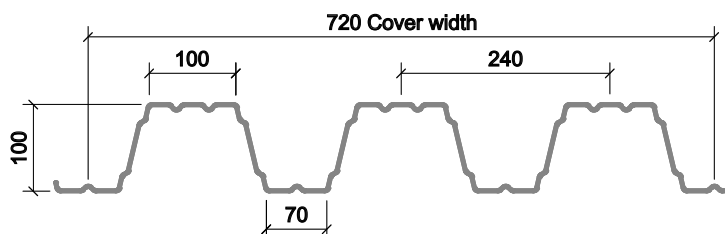
- Galvanised steel
- Interior liner
- Perforated

Profile Properties

Nominal Thickness mm	Coating/Finish	Weight kg/m ²	Weight kN/m ²	Top Flange in Compression		Bottom Flange in Compression	
				Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m
0.7	Galvanised Steel	7.83	0.08	4.15	58.2	4.93	52.2
0.9	Galvanised Steel	10.08	0.10	5.61	68.8	7.40	61.0
1.2	Galvanised Steel	13.46	0.13	11.01	107.3	10.97	106.8

Section properties are calculated assisted by testing in accordance with Eurocode 3.

SR100+



Description

Profile typically used as the structural deck for single ply membrane, double skin built-up, standing seam, green roof and asphalt systems. Also available as part of the Protex Insulated System.

Benefits

- Long-spanning shallow deck
- Can be manually installed with limited need for additional lifting plant
- Perforated option available for enhanced acoustic performance

Gauges

- 0.7mm
- 0.9mm
- 1.2mm

Specification

- 720mm cover width
- 100mm deep

Steel Grade

- S350

Coatings and Finishes

- Galvanised steel
- Interior liner
- Perforated

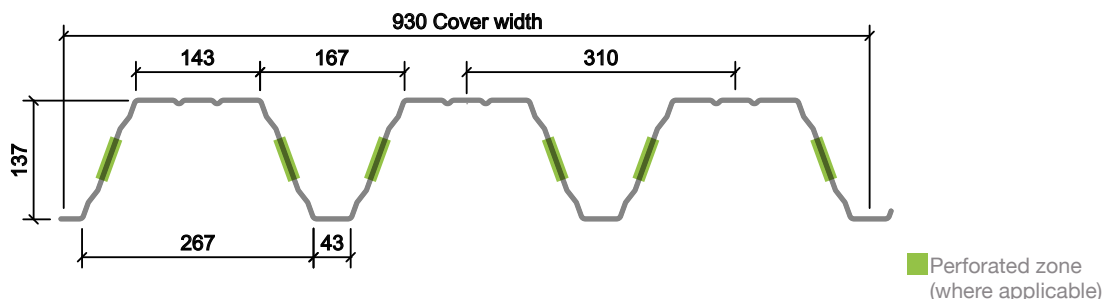


Profile Properties

Nominal Thickness mm	Coating/Finish	Weight kg/m ²	Weight kN/m ²	Top Flange in Compression		Bottom Flange in Compression	
				Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m
0.7	Galvanised Steel	9.24	0.09	7.46	179.06	8.41	154.04
0.9	Galvanised Steel	11.91	0.12	11.62	211.3	10.74	196.21
1.2	Galvanised Steel	15.90	0.16	21.77	349.87	17.73	351.59

Section properties are calculated assisted by testing in accordance with Eurocode 3.

SR135



Description

Profile typically used as the structural deck for single ply membrane, double skin built-up, standing seam, green roof and asphalt systems. In addition to the standard galvanized steel, an aluminium option is also available where durability is a concern in aggressive environments. Available with perforated webs providing 15 to 35% perforation, depending on pattern.

Benefits

- Provides uncluttered soffit when designed as part of a diaphragm roof
- Perforated option available for enhanced acoustic performance
- Bespoke lifting aid available for ease of installation

Specification

- 930mm cover width
- 137mm deep



Gauge

- 0.75mm (Steel)
- 0.88mm (Steel)
- 1.00mm (Steel / Aluminium)
- 1.25mm (Steel / Aluminium)
- 1.50mm (Steel / Aluminium)

Grade

- Steel S320
- Aluminium 180 MPa

Coatings and Finishes

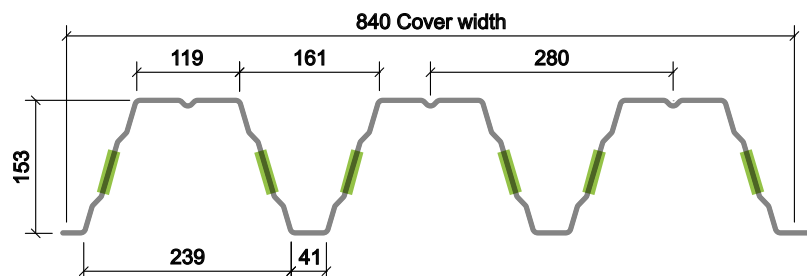
- Galvanised steel
- Galvanised steel with interior liner coating
- Aluminium
- Perforated

Profile Properties

Nominal Thickness mm	Coating/Finish	Weight kg/m ²	Weight kN/m ²	Top Flange in Compression		Bottom Flange in Compression	
				Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m
0.75	Galvanised Steel*	9.7	0.095	9.69	278.22	8.3	276.33
0.88	Galvanised Steel*	11.4	0.112	12.29	336.41	10.9	335.62
1.00	Galvanised Steel*	12.9	0.127	14.81	386.57	13.43	386.57
1.25	Galvanised Steel*	16.1	0.158	20.28	487.04	18.55	487.04
1.50	Galvanised Steel*	19.9	0.191	26.18	587.43	22.54	587.43

Section properties are calculated assisted by testing in accordance with Eurocode 3. *Perforated Steel, Aluminium and Perforated Aluminium product data also available.

SR153



■ Perforated zone
(where applicable)

Description

Profile typically used as the structural deck for single ply membrane, double skin built-up, standing seam, green roof and asphalt systems. In addition to the standard galvanized steel, an aluminium option is also available where durability is a concern in aggressive environments. Available with perforated webs providing 15 to 35% perforation, depending on pattern.

Benefits

- Provides uncluttered soffit when designed as part of a diaphragm roof
- Perforated option available for enhanced acoustic performance
- Bespoke lifting aid available for ease of installation

Specification

- 840mm cover width
- 153mm deep



Gauge

- 0.75mm (Steel)
- 0.88mm (Steel)
- 1.00mm (Steel / Aluminium)
- 1.25mm (Steel / Aluminium)
- 1.50mm (Steel / Aluminium)

Grade

- Steel S320
- Aluminium 180 MPa

Coatings and Finishes

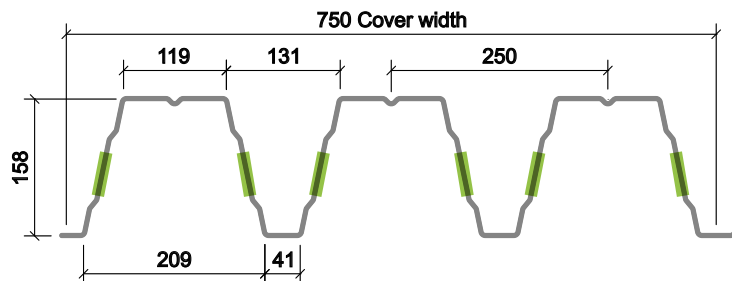
- Galvanised steel
- Galvanised steel with interior liner coating
- Aluminium
- Perforated

Profile Properties

Nominal Thickness mm	Coating/Finish	Weight kg/m ²	Weight kN/m ²	Top Flange in Compression		Bottom Flange in Compression	
				Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m
0.75	Galvanised Steel*	10.51	0.103	12.86	358.66	10.84	366.39
0.88	Galvanised Steel*	12.33	0.121	16.17	436.35	13.84	443.82
1.00	Galvanised Steel*	14.01	0.137	19.26	507.07	17.03	507.11
1.25	Galvanised Steel*	17.52	0.172	25.8	638.83	23.02	638.88
1.50	Galvanised Steel*	21.02	0.206	32.21	770.46	27.76	770.53

Section properties are calculated assisted by testing in accordance with Eurocode 3. *Perforated Steel, Aluminium and Perforated Aluminium product data also available.

SR158



■ Perforated zone
(where applicable)

Description

Profile typically used as the structural deck for single ply membrane, double skin built-up, standing seam, green roof and asphalt systems. In addition to the standard galvanized steel, an aluminium option is also available where durability is a concern in aggressive environments. Available with perforated webs providing 15 to 35% perforation, depending on pattern.

Benefits

- Provides uncluttered soffit when designed as part of a diaphragm roof
- Perforated option available for enhanced acoustic performance
- Bespoke lifting aid available for ease of installation

Gauge

- 0.75mm (Steel)
- 0.88mm (Steel)
- 1.00mm (Steel / Aluminium)
- 1.25mm (Steel / Aluminium)
- 1.50mm (Steel / Aluminium)

Grade

- Steel S320
- Aluminium 180 MPa

Specification

- 750mm cover width
- 158mm deep



Coatings and Finishes

- Galvanised steel
- Galvanised steel with interior liner coating
- Aluminium
- Perforated

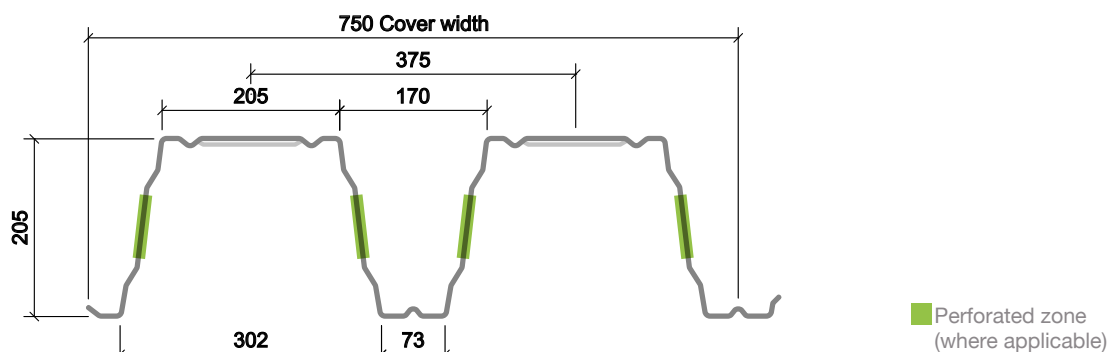
Profile Properties

Nominal Thickness mm	Coating/Finish	Weight kg/m ²	Weight kN/m ²	Top Flange in Compression		Bottom Flange in Compression	
				Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m
0.75	Galvanised Steel*	11.78	0.116	14.8	426.95	12.42	436.44
0.88	Galvanised Steel*	13.82	0.136	18.6	519.38	15.89	527.79
1.00	Galvanised Steel*	15.71	0.154	22.24	603.02	19.55	603.01
1.25	Galvanised Steel*	19.63	0.193	29.78	759.61	26.49	759.6
1.50	Galvanised Steel*	23.56	0.231	37.14	916.01	31.94	916.01

Section properties are calculated assisted by testing in accordance with Eurocode 3. *Perforated Steel, Aluminium and Perforated Aluminium product data also available.

METAL ROOF PROFILE

SR200



Description

Profile typically used as the structural deck for single ply membrane, double skin built-up, standing seam, green roof and asphalt systems. In addition to the standard galvanized steel, an aluminium option is also available where durability is a concern in aggressive environments. Available with perforated webs providing 15 to 35% perforation, depending on pattern.

Benefits

- Provides uncluttered soffit when designed as part of a diaphragm roof
- Perforated option available for enhanced acoustic performance
- Bespoke lifting aid available for ease of installation

Specification

- 750mm cover width
- 205mm deep



Gauge

- 0.75mm (Steel)
- 0.88mm (Steel)
- 1.00mm (Steel / Aluminium)
- 1.25mm (Steel / Aluminium)
- 1.50mm (Steel / Aluminium)

Grade

- Steel S320
- Aluminium 180 MPa

Coatings and Finishes

- Galvanised steel with interior liner coating
- Aluminium
- Perforated

Profile Properties

Nominal Thickness mm	Coating/Finish	Weight kg/m ²	Weight kN/m ²	Top Flange in Compression		Bottom Flange in Compression	
				Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m	Moment Capacity kNm/m	Moment of Inertia cm ⁴ /m
0.75	Galvanised Steel*	11.78	0.116	18.49	710.00	18.35	799.00
0.88	Galvanised Steel*	13.82	0.136	23.25	853.00	22.58	951.00
1.00	Galvanised Steel*	15.71	0.154	27.58	987.00	26.42	1087.00
1.25	Galvanised Steel*	19.63	0.193	36.93	1275.00	34.26	1369.00
1.50	Galvanised Steel*	23.56	0.231	46.74	1571.00	42.00	1651.00

Section properties are calculated assisted by testing in accordance with Eurocode 3. *Perforated Steel, Aluminium and Perforated Aluminium product data also available.



FLOOR DECK | ROOF DECK | **CONCRETE**

PRODUCTS & SERVICES



CONCRETE SERVICE

Concrete on metal deck | Completing the package!

TDS has an experienced management structure and specialist placing / finishing teams solely responsible for integrating the concrete topping element into the deck package.

Associated concrete toppings are co-ordinated in conjunction with the decking and shear stud installation operations, which not only maintains continuity of service for the client but also ensures a quick and seamless process.

What we do

- **Single point responsibility** – reduced coordination between work packages
- **Increased programme certainty** and reduced contract administration
- **Composite concrete slabs** with traditional mesh fabric/loose bar or steel fibre reinforcement
- **Internal floor slabs** / suspended / structural or non-structural toppings to pre-cast planks



KEEP IN TOUCH!

Sign up to our monthly company newsletter!

We send out monthly newsletters to our favourite customers to keep you in the loop of the latest news and developments at Thru Deck. Use the QR code and sign up to our newsletters with just your email. You'll find the sign up on our website home page.



Let's talk about your next project with us!

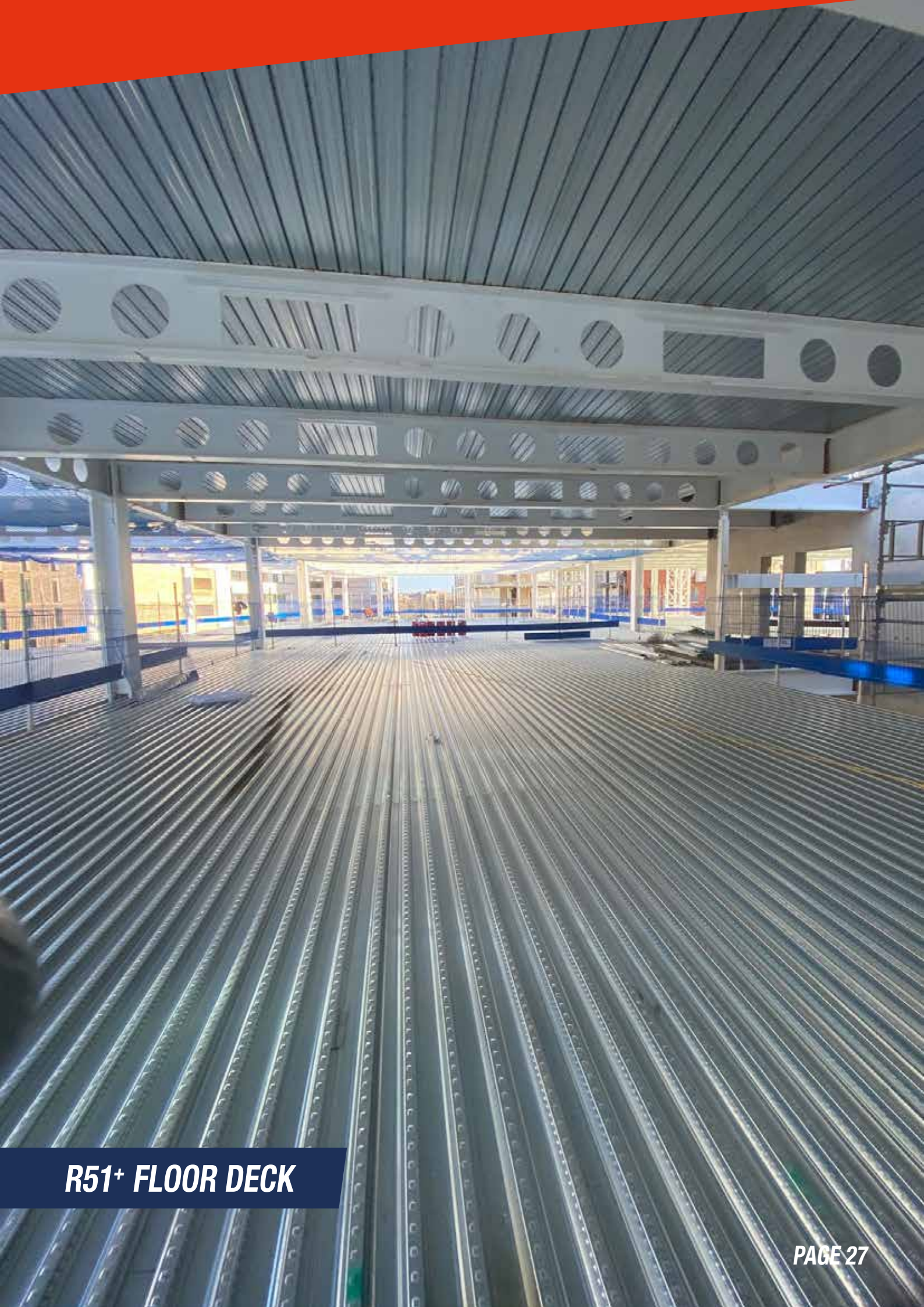
We would love to hear from you regarding your next project! We can provide a quote based on a BOQ or using tender drawings - so keep in touch.

Contact our sales team today

office@thrudeckservices.co.uk

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R51+ FLOOR DECK

TECHNICAL RESOURCES

Take advantage of the free tools available for all our products!

Downloads



SMD Elements®
Design Software

Developed by SMD to address user preferences, this application provides a tool to carry out detailed design for both floor and roof deck products.

The intuitive tabbed interface, 3D design graphics and message pane helps ensure compliant calculations are created with practical implications in mind.

Floor deck calculations

- Performs all aspects of composite slab design for floor slabs using SMD composite deck profiles R51+, TR60+ and TR80+.
- TAB-Deck™ Steel Fibre reinforced concrete design.
- Runs full composite and non-composite slab calculations with the option to input loadings and slab conditions to create a full design report for a given specification.

Roof deck calculations

- Runs calculations on SMD roof deck products in a tabulated step-by-step process.
- The calculation process allows the user to add loadings to their design, finishing with a results page suggesting deck profiles which can be used based on the design criteria.

Download Elements® Design Software



Only available for Microsoft® Windows® operating systems.

▶ See SMD's YouTube channel for guidance on this software.



SMD Elements®
Span Check

Developed with the site user in mind, the app provides an easy way of checking spans for propping at the touch of a button on both Android and Apple devices.

The app benefits from a simple menu along the bottom of the screen allowing users to navigate through the app easily and quickly.

App options

- The options in the span check section of the app are specifically ordered as each choice will determine the next option available. This is most apparent when choosing deck type then slab depth and mesh reinforcement. The app only offers mesh options that will work with the previous choices in the slab design.
- As well as the volume of concrete and weight of concrete, the maximum un-propped spans section matches the results given in our most recent version of 'The White Book' and are all based on S350 grade deck. A range of maximum spans is given based on the deck gauge and span condition (single or double span).
- To aid the choice of deck profile, the Technical Help section, 'What profile do I need?' can assist you. Use the product graphs to identify the correct deck type for your slab depth / span / loadings required.

Download Mobile App



Resources



The White Book Product Span Tables

The White Book has been developed as a quick reference tool to be used by architects, engineers and specifiers when looking for a quick concept design for a composite slab.

Access relevant information using a three-step process with graphs as a visual aid to help understand what can be achieved in different scenarios.



TGN Online Technical Guidance Notes

A searchable wiki-style encyclopedia of information specific to our industry makes it easy for the user to find the information they are looking for.

Comprehensive guidance on design and installation of composite metal floor and structural roof deck, the TGN provides information from start to finish of a contract journey.



NBS Specification Specification Writing Tool

All of our products are listed in NBS format for each individual specification.

- G30 Clause 100: Floor profile
- G30 Clause 200: Fixing decking
- G30 Clause 300: Fixings to the underside of composite floor/slab.



3D BIM Objects BIM Models

To assist engineers and designers in developing specifications within their BIM models, our products are available as BIM objects from our website in IFC and Autodesk Revit format.

All objects come with full manufacturer's details and CoBie data attached.



TECHNICAL RESOURCES

Select the product that best suits your contract!

												Floor Deck Profiles					
	Profile	Nominal Thickness mm	Steel Grade N/mm²			Coatings and Options						Weight kg/m²	Moment of Inertia cm⁴/m	Height of Neutral Axis mm	Area of Steel mm²/m	Concrete Volume m³/m²	Max. Single Span m (unpropped) ^[1]
			S320	S350	S450	Galv (Z275)	HD (ZM310)	Plastisol (PF)	Interior Liner	Perforat-ed	Crushed Ends						
Floor Deck Profiles	R51+	0.80	-	✓	-	✓	✓	-	-	-	-	12.02	56.90	15.80	1464	(slab depth/1000) - 0.009	2.1 - 2.5
		0.90	-	✓	✓	✓	✓	-	-	-	-	13.54	61.27	16.20	1657		2.2 - 2.7
		1.00	-	✓	✓	✓	✓	-	-	-	-	15.01	68.73	16.50	1845		2.3 - 2.9
		1.20	-	✓	✓	✓	✓	-	-	-	-	17.98	85.60	17.00	2223		2.4 - 3.2
	TR60+	0.90	-	✓	✓	✓	✓	-	-	-	-	10.03	93.50	33.60	1216	(slab depth/1000) - 0.034	2.1 - 3.1
		1.00	-	✓	✓	✓	✓	-	-	-	-	11.12	102.10	33.60	1355		2.2 - 3.4
		1.20	-	✓	✓	✓	✓	-	-	-	-	13.33	119.80	33.70	1633		2.3 - 3.7
	TR80+	0.90	-	✓	✓	✓	✓	✓	-	-	✓	11.33	172.90	42.30	1385	(slab depth/1000) - 0.044	2.2 - 3.9
		1.00	-	✓	✓	✓	✓	-	-	-	✓	12.54	192.30	42.40	1539		2.2 - 4.2
		1.20	-	✓	✓	✓	✓	✓	-	-	✓	15.06	231.10	42.50	1860		2.3 - 4.4
	TR220	1.13	-	✓	-	✓	-	-	✓	-	-	14.80	1374.20	159.90	1681	(slab depth/1000) - 0.183	5.6 - 5.8
		1.25	-	✓	-	✓	-	-	✓	-	-	16.40	1525.50	159.90	1866		4.8 - 6.0
Roof Deck Profiles	SR30+	0.70	-	✓	-	✓	✓	-	✓	-	-	6.66					
		0.90	-	✓	-	✓	✓	-	✓	-	-	8.57					
	SR35+	0.70	-	✓	-	✓	✓	-	✓	-	-	7.40					
		0.90	-	✓	-	✓	✓	-	✓	-	-	9.52					
		1.20	-	✓	-	✓	✓	-	✓	-	-	12.72					
	SR60+	0.70	-	✓	-	✓	✓	-	✓	✓	-	7.83					
		0.90	-	✓	-	✓	✓	-	✓	✓	-	10.08					
		1.20	-	✓	-	✓	✓	-	✓	✓	-	13.46					
	SR100+	0.70	-	✓	-	✓	✓	-	✓	✓	-	9.24					
		0.90	-	✓	-	✓	✓	-	✓	✓	-	11.91					
		1.20	-	✓	-	✓	✓	-	-	✓	-	15.90					
	SR135	0.75	✓	-	-	✓	-	-	✓	✓	-	9.50					
		0.88	✓	-	-	✓	-	-	✓	✓	-	11.14					
		1.00	✓	-	-	✓	-	-	✓	✓	-	12.66					
		1.25	✓	-	-	✓	-	-	✓	✓	-	15.83					
		1.50	✓	-	-	✓	-	-	✓	✓	-	18.99					
	SR153	0.75	✓	-	-	✓	-	-	✓	✓	-	10.51					
		0.88	✓	-	-	✓	-	-	✓	✓	-	12.34					
		1.00	✓	-	-	✓	-	-	✓	✓	-	14.02					
		1.00	✓	-	-	✓	-	-	✓	✓	-	17.52					
1.25		✓	-	-	✓	-	-	✓	✓	-	21.03						
SR158	0.75	✓	-	-	✓	-	-	✓	✓	-	11.78						
	0.88	✓	-	-	✓	-	-	✓	✓	-	13.82						
	1.00	✓	-	-	✓	-	-	✓	✓	-	15.70						
	1.00	✓	-	-	✓	-	-	✓	✓	-	19.63						
	1.25	✓	-	-	✓	-	-	✓	✓	-	23.55						
SR200	0.75	✓	-	-	✓	-	-	✓	✓	-	11.78						
	0.88	✓	-	-	✓	-	-	✓	✓	-	13.82						
	1.00	✓	-	-	✓	-	-	✓	✓	-	15.70						
	1.00	✓	-	-	✓	-	-	✓	✓	-	19.63						
	1.25	✓	-	-	✓	-	-	✓	✓	-	23.55						

TABLE KEY [1] Based on slab depths of 200-130mm un-propped. [2] Cantilever values indicated for floor deck are governed by Health and Safety during installation. [3] The maximum span values are based on the following design criteria: Imposed Load of 1.5kN/m² or Line Load of 2kN/m, Partial Load. Factor of 1.5 (considering all load as 'Variable'), Imposed Load Deflection Limit of Span/200, Wind Uplift of 1.5kN/m², subject

			Roof Deck Profiles								Product Selector based on profile strengths (3 stars being the strongest)				
Max. Double Span m (unpropped) ^[1]	Max. Recommended Cantilever m (unpropped) ^[2]	Weight kN/m²	Top Flange in Compression		Bottom Flange in Compression		Max. Single span m ^[3]	Max. Double span m ^[3]	Max. Cantilever m ^[4]	Max. Recommended Sheet Length ^[5]	Span	Cost	Speed	Aesthet- ics	Load
			Moment Capacity	Moment of Inertia	Moment Capacity	Moment of Inertia									
2.1 - 2.9	0.45									10.0	★	★	★★	★★★	★★★
2.2 - 3.2	0.45									10.0	★	★	★★	★★★	★★★
2.3 - 3.3	0.45									9.0	★	★	★★	★★★	★★★
2.4 - 3.7	0.45									7.5	★	★	★★	★★★	★★★
2.1 - 3.5	0.45									9.5	★★	★★★	★★	★★	★★
2.2 - 3.8	0.45									8.5	★★	★★★	★★	★★	★★
2.3 - 4.2	0.45									8.0	★★	★★★	★★	★★	★★
2.2 - 4.3	0.45									11.0	★★★	★★	★	★	★
2.2 - 4.5	0.45									10.5	★★★	★★	★	★	★
2.3 - 5.2	0.45									9.5	★★★	★★	★	★	★
NA	NA									6.50	★★★	★	★	★★	★★
NA	NA									6.00	★★★	★	★	★★	★★
		0.070	1.45	6.20	1.54	9.50	1.5	1.8	0.30	12.0	★	★★★	★★★	★★★	★
		0.080	2.19	8.80	2.18	13.20	1.7	2.0	0.35	10.0	★	★★★	★★★	★★★	★
		0.070	3.42	20.10	2.95	19.80	2.2	2.6	0.40	12.0	★	★★★	★★★	★★★	★
		0.090	4.26	23.50	4.16	22.40	2.3	2.8	0.45	10.0	★	★★★	★★★	★★★	★
		0.120	7.45	35.70	6.60	35.70	2.7	3.2	0.55	8.0	★	★★★	★★★	★★★	★
		0.080	4.15	58.20	4.93	52.20	3.2	3.7	0.70	12.0	★★	★★★	★★★	★★★	★★
		0.100	5.61	68.80	7.40	61.00	3.3	3.9	0.80	10.0	★★	★★★	★★★	★★★	★★
		0.130	11.01	107.30	10.97	106.80	3.9	4.6	0.95	8.0	★★	★★★	★★★	★★★	★★
		0.090	7.46	179.06	8.41	154.04	4.5	4.5	1.00	12.0	★★	★★	★★	★★	★★
		0.120	11.62	211.30	10.74	196.21	4.8	5.7	1.13	9.0	★★	★★	★★	★★	★★
		0.160	21.77	349.87	17.73	351.59	5.7	6.8	1.25	7.5	★★	★★	★★	★★	★★
		0.095	9.69	278.22	8.30	276.33	5.2	5.6	1.15	10.0	★★	★★	★★	★★	★★
		0.112	12.29	336.41	10.90	335.62	5.4	6.2	1.21	9.0	★★	★★	★★	★★	★★
		0.127	14.81	386.57	13.43	386.57	5.8	6.8	1.28	8.0	★★	★★	★★	★★	★★
		0.158	20.28	487.04	18.55	487.04	6.2	7.4	1.40	6.5	★★	★★	★★	★★	★★
		0.190	26.18	587.43	22.54	587.43	6.6	7.4	1.50	5.5	★★	★★	★★	★★	★★
		0.103	12.86	358.66	10.84	366.39	5.6	6.6	1.30	10.0	★★★	★	★★	★★	★★★
		0.121	16.17	436.35	13.84	443.82	6.0	7.4	1.34	9.0	★★★	★	★★	★★	★★★
		0.137	19.26	507.07	17.03	507.11	6.4	8.2	1.38	8.0	★★★	★	★★	★★	★★★
		0.172	25.80	638.83	23.02	638.88	7.0	8.2	1.45	6.5	★★★	★	★★	★★	★★★
		0.206	32.21	770.46	27.76	770.53	7.4	8.2	1.50	5.5	★★★	★	★★	★★	★★★
		0.116	14.80	426.95	12.42	436.44	6.0	7.2	1.25	10.0	★★★	★	★	★★	★★★
		0.136	18.60	519.38	15.89	527.79	6.4	8.0	1.38	9.0	★★★	★	★	★★	★★★
		0.154	22.24	603.02	19.55	603.01	6.8	8.8	1.40	8.0	★★★	★	★	★★	★★★
		0.193	29.78	759.61	26.49	759.60	7.4	8.8	1.55	6.5	★★★	★	★	★★	★★★
		0.231	37.14	916.01	31.94	916.01	7.8	8.8	1.70	5.5	★★★	★	★	★★	★★★
		0.116	18.49	710.00	18.35	799.00	5.6	5.8	1.45	10.0	★★★	★	★	★★	★★★
		0.136	23.25	853.00	22.58	951.00	7.8	8.2	1.55	9.0	★★★	★	★	★★	★★★
		0.154	27.58	987.00	26.42	1087.00	8.0	8.8	1.65	8.0	★★★	★	★	★★	★★★
		0.193	36.93	1275.00	34.26	1369.00	8.6	8.8	1.85	6.5	★★★	★	★	★★	★★★
		0.231	46.74	1571.00	42.00	1651.00	8.8	8.8	2.00	5.5	★★★	★	★	★★	★★★

to appropriate fixings, Wind Uplift Deflection Limit of Span/150. [4] The maximum cantilever figures indicated in this document are based on a point load of 0.9kN positioned at the end of the cantilever. [5] Recommended maximum sheet lengths are limited due to site Health and Safety manual handling guidelines, additional lifting plant recommended for longer sheet lengths.



THRUDECKServices
Metal Decking Contractors