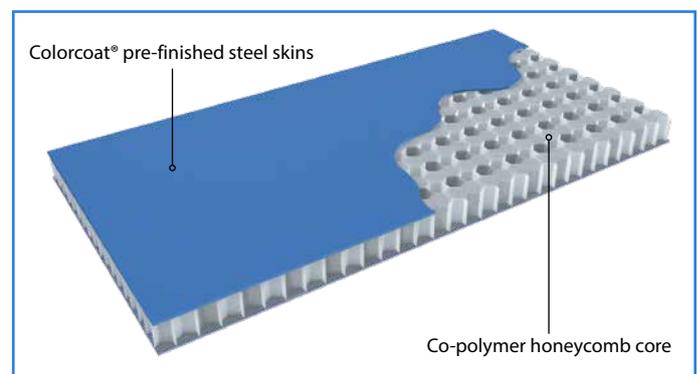


## Coretinium®

A unique and durable composite solution that delivers weight savings to the transport sector.

Pre-finished steel and a rigid polymer honeycomb core, Coretinium® provides a composite solution with exceptional rigidity to weight ratio that can help reduce vehicle weight, cut CO<sub>2</sub> emissions and increase payloads.

Coretinium® is ideally suited to a range of transport applications such as; commercial trailer side walls, floors and doors, bus floors, and recreational vehicles such as horse boxes.



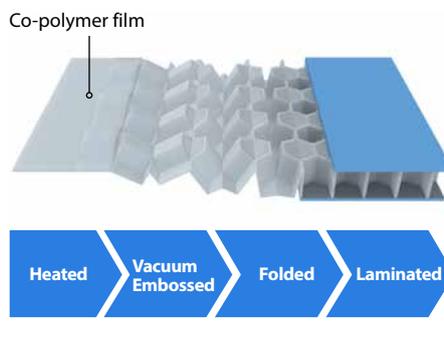
### Coretinium® features and benefits:

- Highly optimised polymer core based on a recognised automotive grade, which maintains its performance even in extreme climates.
- Manufactured from thin gauge pre-finished steel that provides exceptional rigidity at a relatively low weight compared to commonly used alternatives. This enables reduced vehicle weight lowering fuel consumption and CO<sub>2</sub> emissions.
- Enhanced adhesion layer that maintains bond integrity in moist and humid conditions. Significantly reducing future refurbishment requirements.
- Fire resistant steel layer satisfies R118 Annex 6 legislation enabling this lightweight composite solution to be used in passenger transport.
- Open honeycomb core structure allows for single sided riveting, enabling secretfix solutions and maintaining the overall aesthetics of the vehicle.

### Sustainable

Coretinium® is made on a New to the World coil fed production line in Shotton, based on EconCores' patented honeycomb core production technology. The combination of high performance Colorcoat® pre-finished steel range with a lightweight rigid core, results in a very efficient use of materials.

### Coretinium® production process



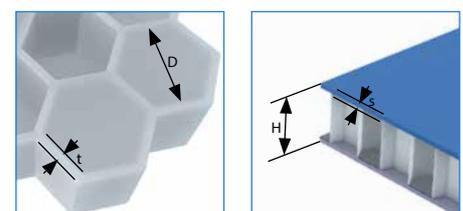
### Recyclable

At its end-of-life the Coretinium® composite product can be considered as general steel scrap and be completely recycled via the steel making process without the need to separate the core from the skins.

### Coretinium® is supplied with Colorcoat Prisma® - the ultimate combination of durability and aesthetics.

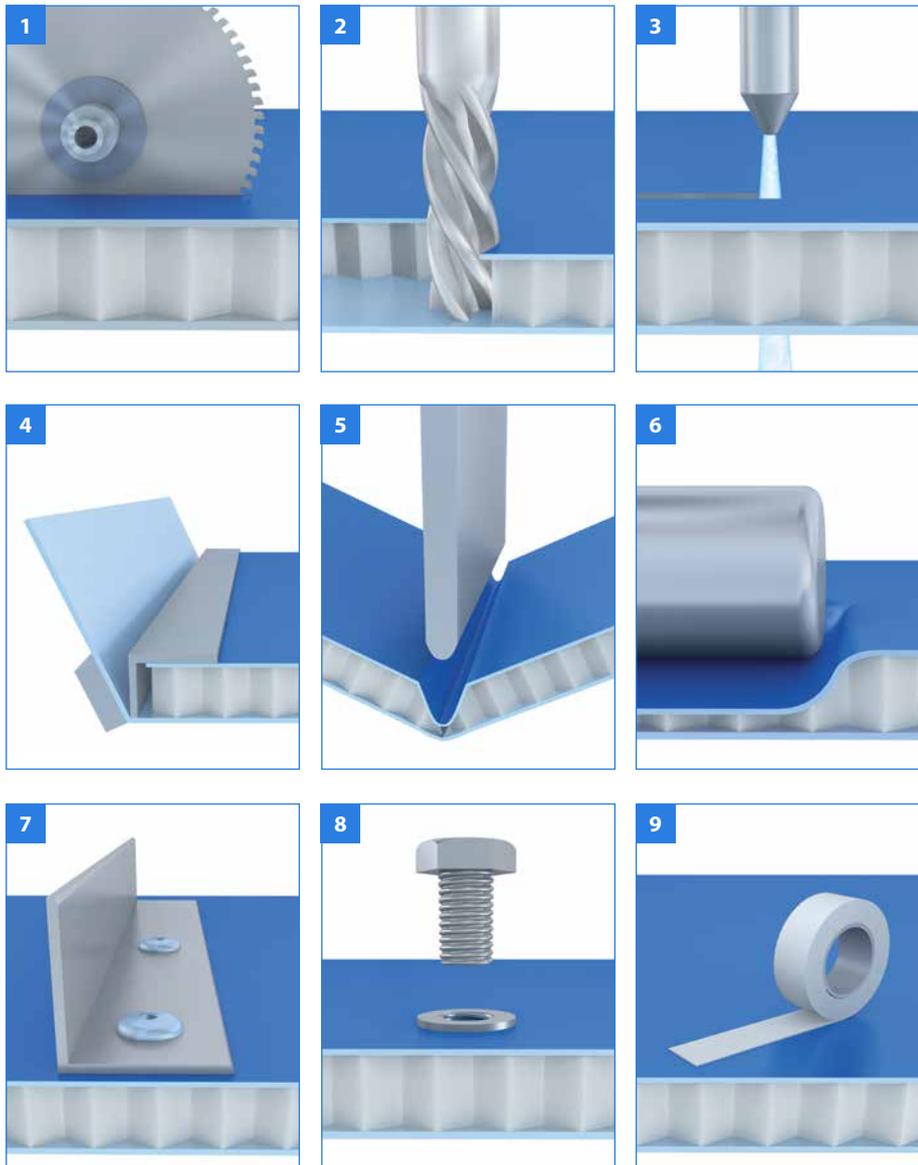
Colorcoat Prisma® is made up of a number of layers, which perform different functions. The Galvalloy™ metallic coating and high build primer provide the corrosion resistance, and the topcoat utilises the latest polymer technology to provide abrasion and UV resistance. The Galvalloy™ metallic coating is a special mix of zinc and aluminium that provides unrivalled corrosion protection even at cut edges.

Available in a choice of colours, Coretinium® provides a perfect surface for direct adhesive bonding or decorating with vinyl wraps reducing manufacturing time.



Product code	Skin <sup>(1)</sup> thickness s (mm)	Core height (mm)	Total height <sup>(2)</sup> H (mm)	Core cell diameter D (mm)	Core Wall Thickness T (mm)	Panel weight (kg/m <sup>2</sup> )	Rigidity E <sup>1</sup> (kNcm <sup>2</sup> /m)
10mm Coretinium®	0.40/0.40	9.2	10.0	7.0	0.40	7.65	36,000
10mm HD Coretinium®	0.55/0.55	8.9	10.0	7.0	0.60	10.70	52,000
25mm Coretinium®	0.40/0.40	24.2	25.0	9.6	0.40	9.10	240,000
28mm AS Coretinium®	0.55/0.40	27.1	28.0	9.6	0.60	11.60	355,000
28mm Coretinium®	0.55/0.55	26.9	28.0	9.6	0.60	12.80	415,000

<sup>(1)</sup> Standard Colorcoat® pre-finished steel skin based on 0.4mm S280 or 0.55mm S320 Galvalloy™ - other skin thicknesses & grades available on request subject to minimum order quantity. <sup>(2)</sup> Other thicknesses are available upon request.



### Processing advice

- 1. Sawing** - A wide range of CNC machines, Vertical Wall saws or panel saw can be used to cut Coretinium® with Tungsten Carbide tipped saw blades at lowered rpm
- 2. Routing / milling** - Optimum results are achieved with multi-fluted tools and lowered rpm / feed in rate
- 3. Water jet cutting** - Provides a good alternative for complex shapes
- 4. Single skin folding** - By removing the back skin and core, crisp folds to the front skin are possible with pan folder & adjusted tooling
- 5. Through folding** - A more rounded fold can be achieved using a traditional press brake
- 6. Press forming** - Edges or parts of Coretinium® can be locally deformed to create a recess with press brake or roller tools
- 7. Riveting** - A secret fix can be created using a pop rivet into drilled hole, with an option to use self-piercing solutions
- 8. Screwing** - A screw lock systems can be used to create a robust, joining solution
- 9. Adhesive bonding** - The Colorcoat® surface of Coretinium® offers a clean surface, making both liquid adhesive and tape options a quick and effective joining solution. Testing advised.

### Tata Steel

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