



## Structural Steel Decks and Liner Trays

# Structural steel decks and liner trays

**Structural decking offers a simplified method of roof construction by dispensing with the need for purlins.**

**The liner sheet is used to span the structural frame of the building resulting in fewer components and giving clean, uncluttered lines to the interior of the roof structure. Use of structural decking can also stiffen the structure and act as a bracing if required.**

Acoustic properties can be designed into the system, thereby engineering sound absorption and transmission characteristics.

Structural decks will span up to 10m, dependant on the design load, and once in place provide a strong, walkable surface for the rest of the roofing works.

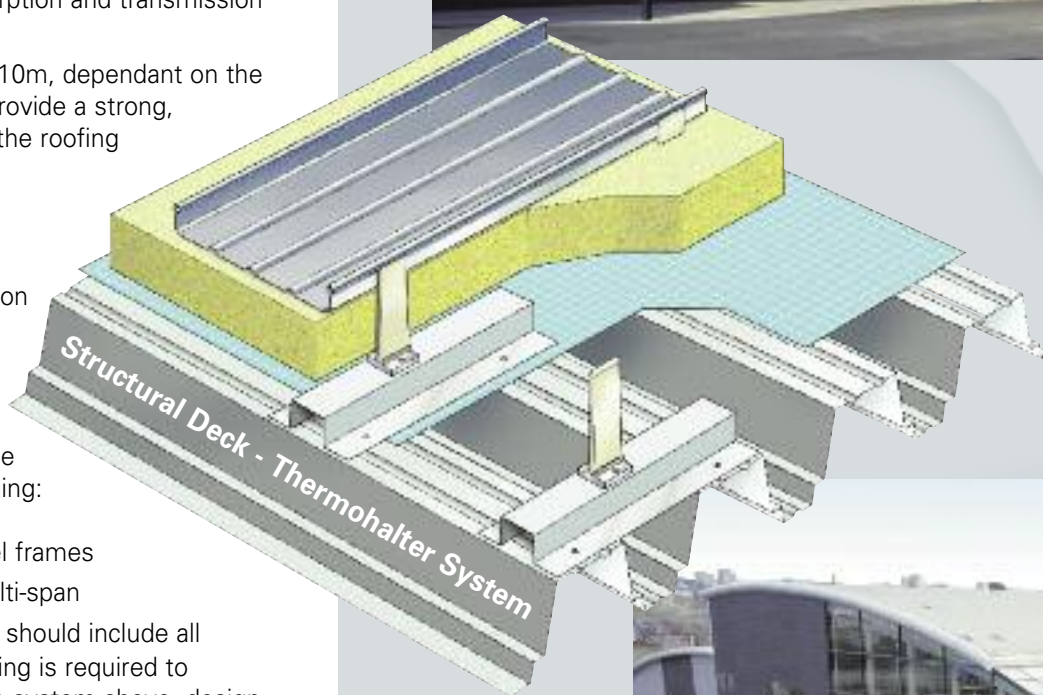
## Design requirements

Design of structural decking is complex in that certain information is required to tabulate the particular specification.

RigiSystems Systems offer this design service, provided that full information is provided on the requirements of the deck, including:

- Maximum span between steel frames
- Whether single, double or multi-span
- Design imposed loads - these should include all positive loads which the decking is required to support, ie design loads of the system above, design loads of anything attached to the underside, snow loads, wind loads and loads imposed by foot traffic.
- Wind loads (uplift)
- Whether diaphragm action is required \*
- Acoustic requirements

*\*RigiSystems will be able to propose suitable decking for loading conditions. However if diaphragm action is required the system will have to be referred to a qualified structural engineer for calculation. We can advise on suitable providers if required.*





### Acoustics

Decking is available non perforated, fully or web perforated. Selection will depend on the acoustic requirements of the building.

Generally, where sound transmission is an important factor, either in or out of the building, then solid deck should be used. Where sound absorption is critical for example in sports halls, then perforated deck should be used. Web perforation is generally preferred to full perforation as full perforation significantly reduces the load carrying capacity of the product.

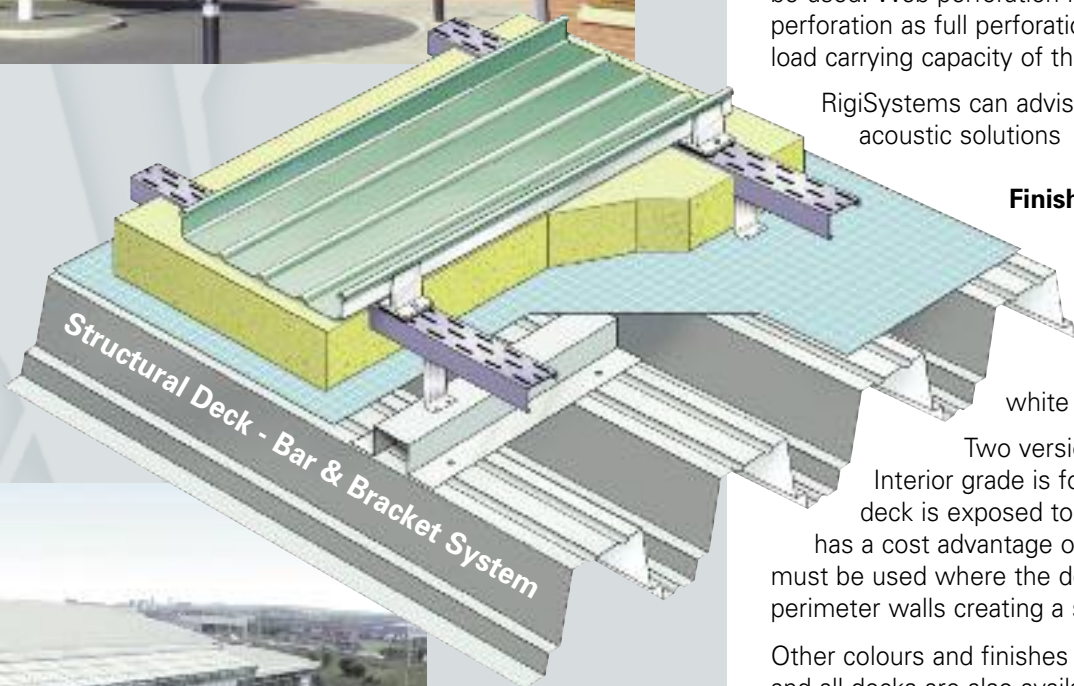
RigiSystems can advise on the most appropriate acoustic solutions

### Finishes

Most decking is supplied either plain galvanised, for when the underside is to be hidden by a suspended ceiling, or in white polyester, RAL 9002.

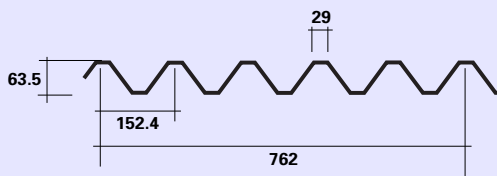
Two versions of paint are available. Interior grade is for where no part of the deck is exposed to external weathering, and has a cost advantage over exterior grade which must be used where the deck extends beyond the perimeter walls creating a soffit on the outside.

Other colours and finishes are available on request and all decks are also available in plain mill finish aluminium if required.

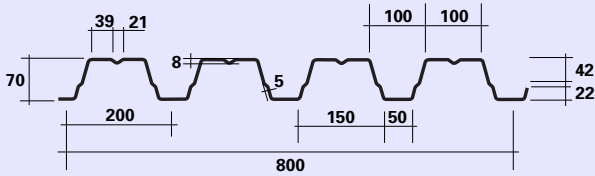


# Structural steel decks

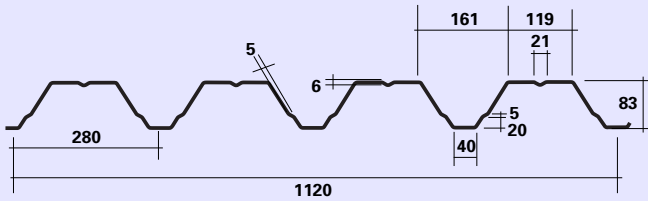
**RD 65/152/762**



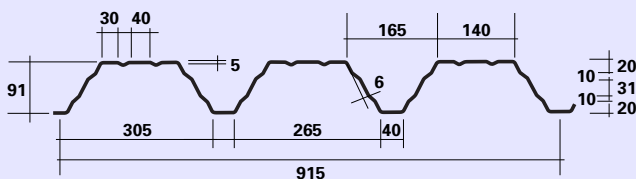
**RD 70/200/800**



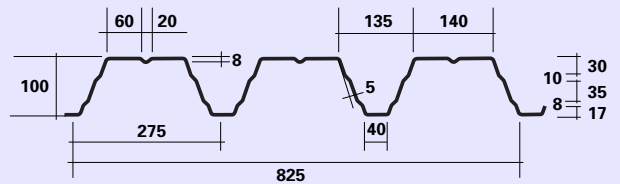
**RD 85/280/1120**



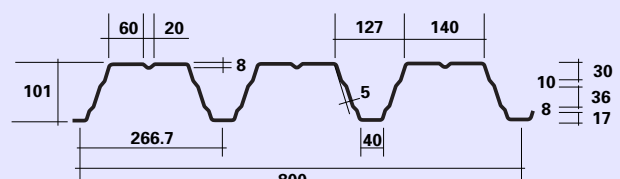
**RD 89/305/915**



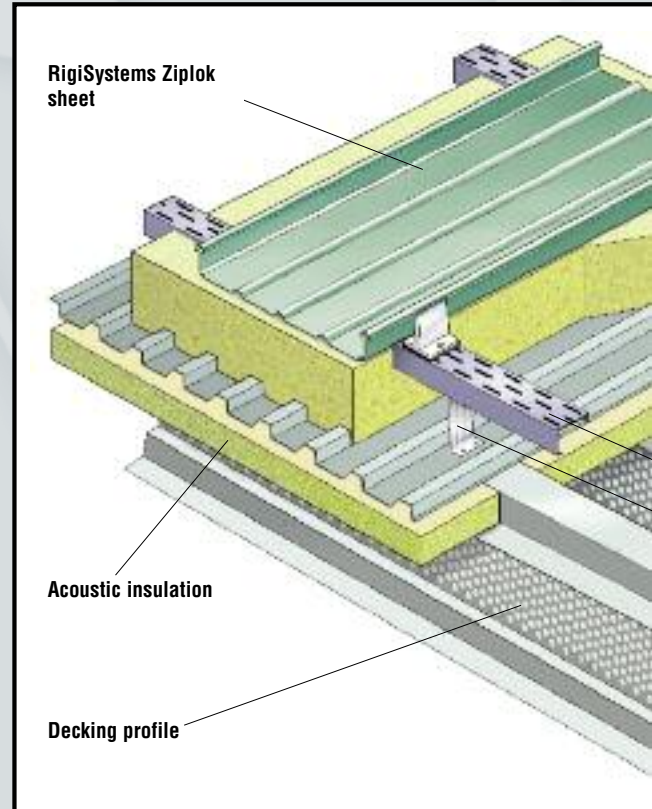
**RD 100/275/825**



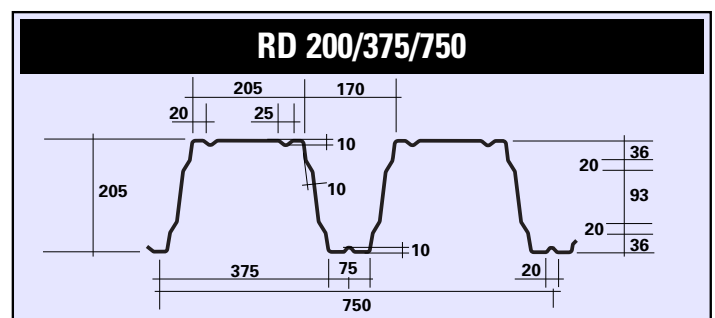
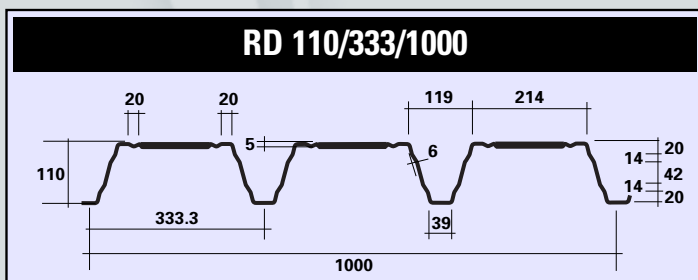
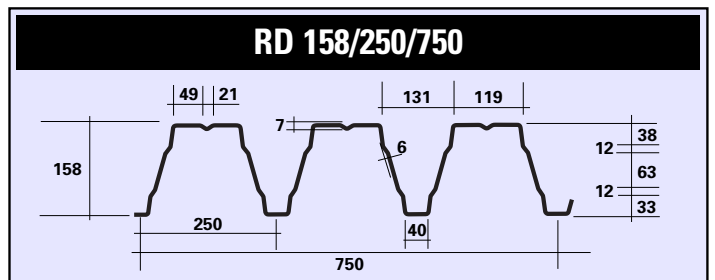
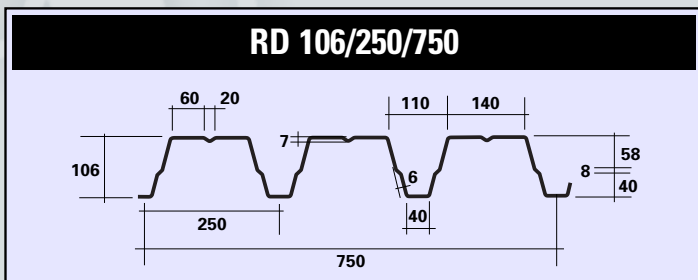
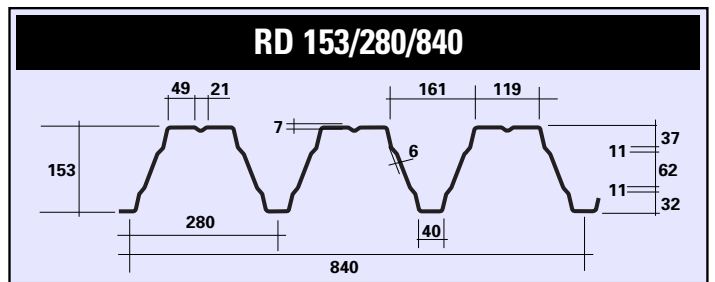
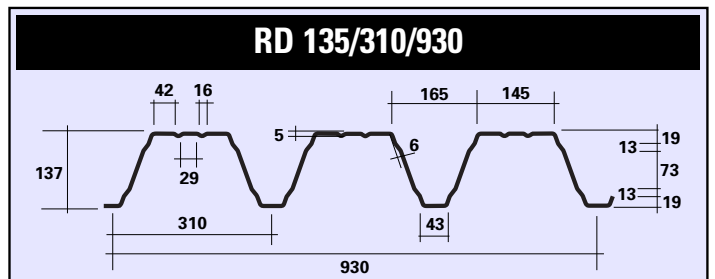
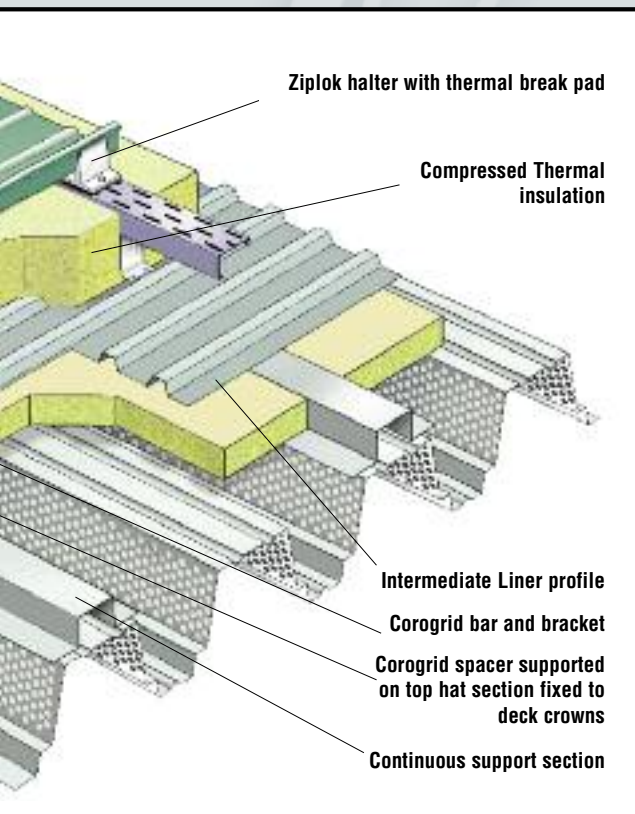
**RD 101/266/800**



## Structural Deck Acoustic System - C



# Combined absorption and attenuation

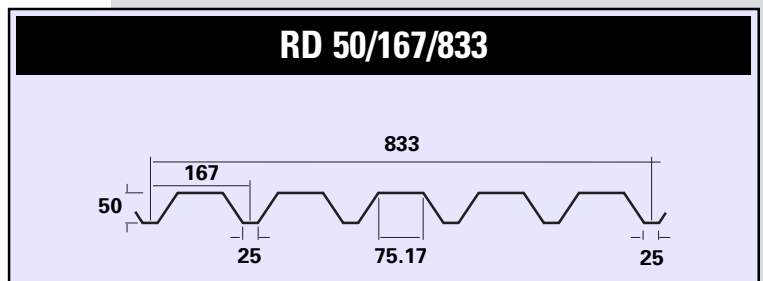
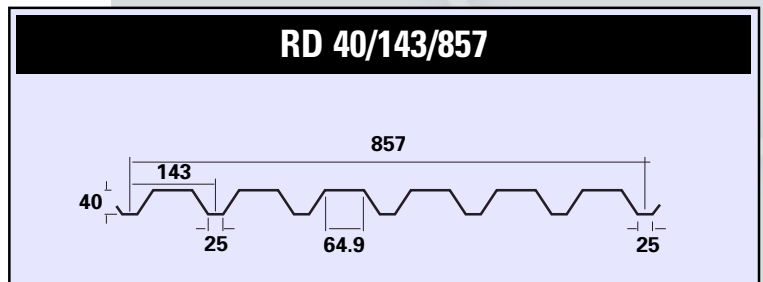
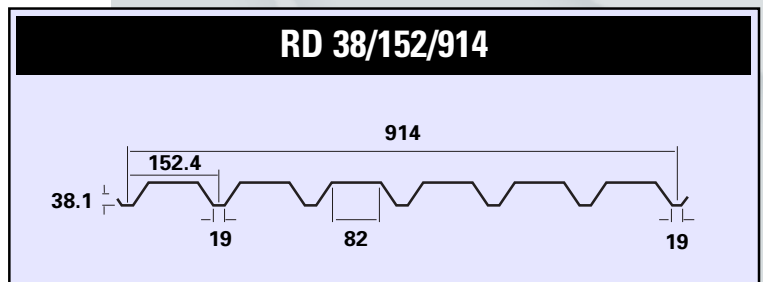
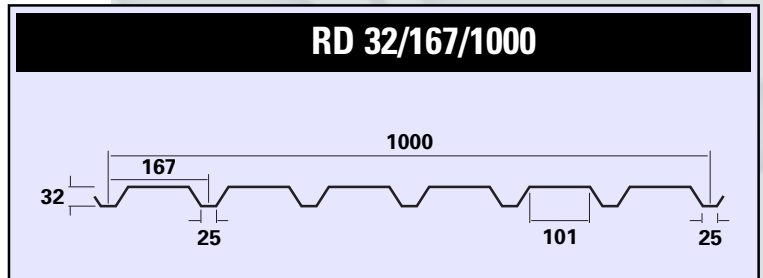


# Short Span Steel and Aluminium Decks

To complement our range of structural decks, we have launched a range of decks to support roofs in short span situations, or where the decking is required to span between purlins within the portal frame.

Decks are available in galvanised mild steel or aluminium, self colour or with a variety of coatings, in a range of thicknesses from 0.5 to 1.5mm, and can be web or fully perforated if required.

Typical applications are for flat roofs with membrane, built up felt roofing or small standing seam roofs.



# Structural Liner Trays

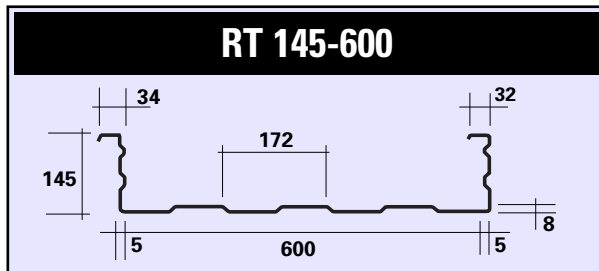
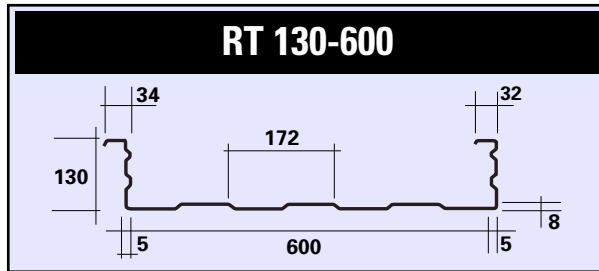
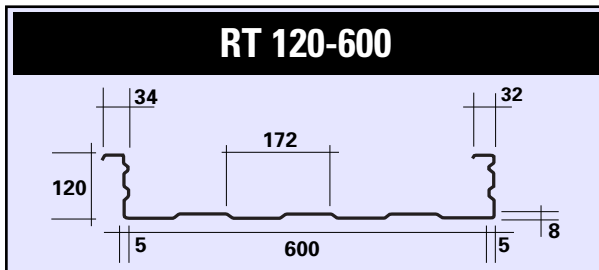
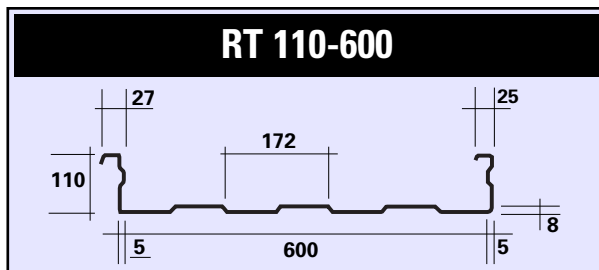
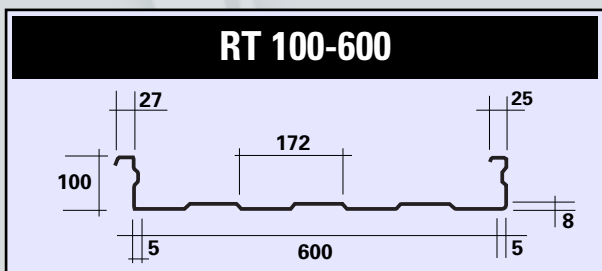
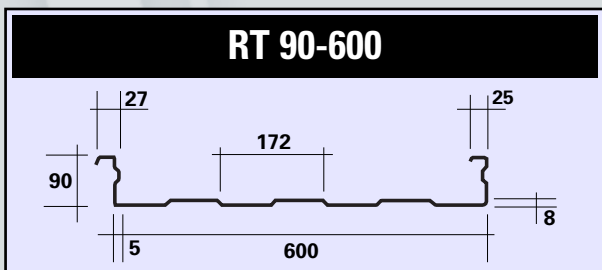
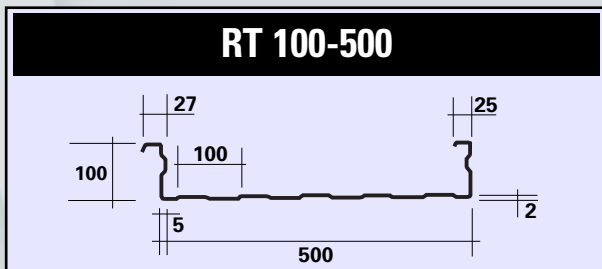
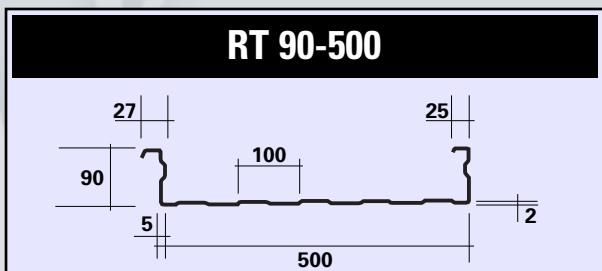
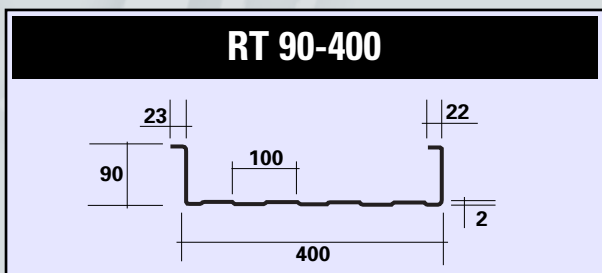
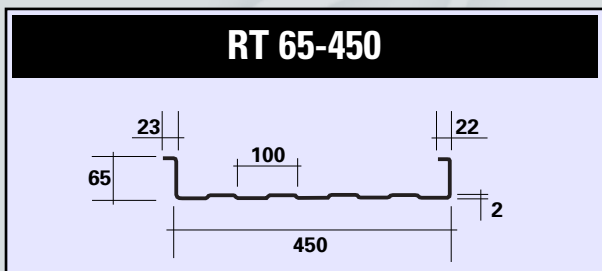
RigiSystems offers a wide range of structural liner trays.

In wall applications, trays can be used horizontally, replacing traditional sheeting rails spanning the portal frames of the building.

The shallow profile of the tray pan creates a clean, uncluttered finish to the interior of the wall. Also, the edges of the trays serve to support the insulation material thus preventing insulation 'slump' and consequent cold spots.

Trays can also be used in roofing applications, though the spanning capabilities are not as good as decks.

Liner trays can be supplied with perforations to the flat surface if required for acoustic applications.





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