

# Grooved

## Main feature: Distributor

The groove configuration on GRC6/GRC8 enables a reliable, fast and robust distribution of resin on both sides of the core, only on flat or slightly curved surfaces. GRC6 is grooved along the sheet and GRC8 is grooved across the sheet.

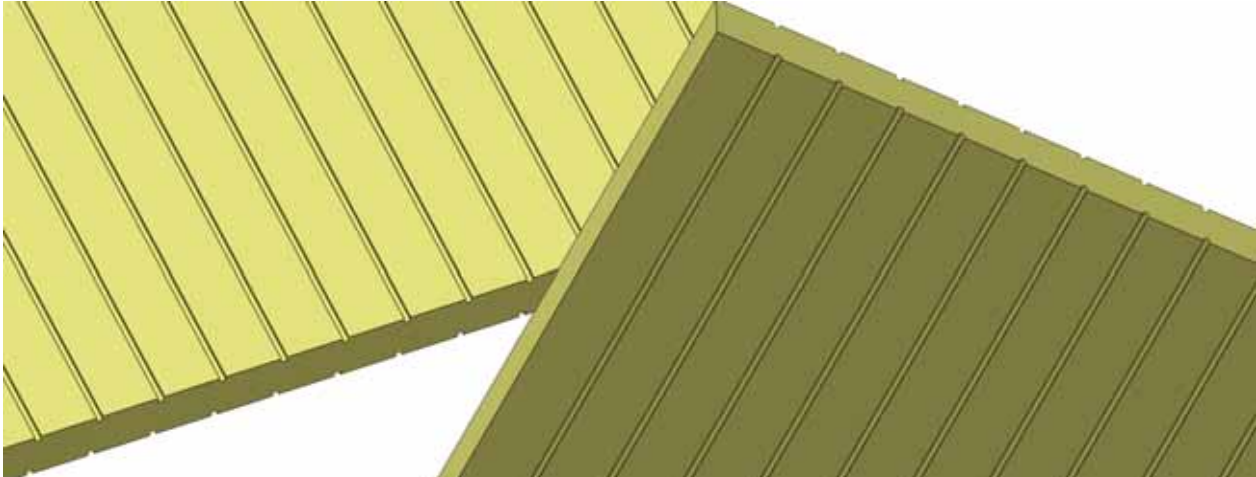


Figure 1: GRC6 top view (left picture) and bottom view (right)

## Description

One side of the core is grooved in longitudinal or transverse direction of the sheet.

Typical measurements:	
Center-to-center	20mm
Depth (D)	2mm
Width (W)	2mm

## Benefits

- Reduces cost
- Saves labor
- Big process window
- Facilitating easy and fast lay-up of infusion strategy
- Resin consumption very low and not dependent of thickness

GRC6/GRC8 has got excellent infusion capabilities and also has economical benefits since there is no need for additional infusion materials. For example, flow meshes or flow mats, are usually not needed due to the effective grooving of the core. The fast flow normally reduces the number of feeder lines

needed to get a part effectively wetted out. This means that there are a lot of savings both in labor, materials and consumables compared to other infusion methods.

Peel plies are seldom used in combination with GRC6/GRC8 since the added value is minor. However, it might occasionally be used to facilitate an easier grinding prior to secondary bonding or to get a smoother surface.

## Typical applications

- Panels
- Superstructures
- Webs
- Stiffeners

GRC6/GRC8 are not to recommend on surfaces with high demands of surface finish due to risk of print through from grooves.

(In combination with another finishing code, for example GS30, GRC6/GRC8 may be used also in applications with curved surfaces.)

## Process characteristics

- Good wet-out
- Robust
- Fast
- Reliable

The dimensions of the grooves enable both low and high viscosity resins to flow steadily.

The design of the grooves (width, depth and distance between them) generates a fast flow and a proper saturation of fibers and core surface, which secures a good bonding between core and laminate.

## Limitations and considerations

Resin consumption due to groove configuration is not related to core thickness.

GRC6/GRC8 are intended for flat surfaces and are not as robust as infusion configurations were grooves are oriented in two directions, since that enables a flow around potential defects in grooves.

GRC6/GRC8 are intended for flat surfaces<sup>1</sup>.

## Finishing Solutions

DIAB utilizes a combination of its complete range of finishing options to provide an optimized solution based on customers' requirements and objectives. Should the standard range not fulfill the needs, tailor made cuts and solutions can be defined and developed. Normally this is not needed as the range of options and DIAB competence covers majority of needs in various industries.

## Kits

To fully optimize the application for cost, performance and quality DIAB can engineer and design a core kit delivered in lay-up sequence. The kit of precut pieces is optimized for mechanical requirements, lay-up, manufacturing process, cost and quality objectives. The kit is produced by our skilled personnel using a combination of traditional and CNC equipment to achieve the desired result.

By working with kits our customers gain access to the full competence of DIAB in terms of engineered design, core materials and range of manufacturing techniques, all having a profound impact on the ability to reach the objectives of the application from cost, quality and performance point of view.

<sup>1</sup>. In combination with another finishing code, for example GS30, GRC6/GRC8 may be used also in applications with curved surfaces.

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