安装节点详图 · Installation Node Details

FRP Grating Installation Node Details — Clips, Bolts, Bearing, Edge Sealing

NANTONG ZEALL (ZeAllgrate) · founded 2004 · plant 20,000+ m² · 200+ staff · exported to 40+ countries · indicative figures for preliminary design; confirm against project calculation before ordering.

1. Why node details matter

Most on-site failure traces back to a bearing length too short, a clip over-torqued, or a cut edge left unprotected. The nodes below are the standard ZeAllgrate details; confirm against the project drawing and local code before installation.

2. Bearing and support beam

Item	Minimum / standard	Note
Bearing length on steel / FRP support	>= 50 mm	60 mm preferred at end spans
Support spacing	Per load table (600 / 900 / 1200 mm)	Never cantilever without check
Gap between panel ends	10-15 mm	Thermal movement, ~20 mm at long runs
Gap between panel sides	6-10 mm	Allows expansion and safe lifting
Support top cover	Neoprene strip 3 mm recommended	Cuts galvanic / local stress

3. Clips and bolts

Connector	Use on	Fastener	Torque	Per panel
C-clip (top + bottom)	Moulded to steel angle	A2-70 M6 bolt	Hand-tight + 1/4 turn	>= 4 corners
L-clip (L shape)	Edge to support	A2-70 M6 bolt	Hand-tight + 1/4 turn	>= 2 per edge
T-clip (under bar)	Pultruded to steel	A2-70 M8 bolt	Hand-tight + 1/4 turn	>= 3 per support
W-clip (wrap)	Heavy duty HD	A2-70 M8 bolt	Hand-tight + 1/4 turn	>= 4 per panel
Saddle clip	T-bar / I-bar underside	A2-70 M6 bolt	Hand-tight + 1/4 turn	>= 3 per support

4. Cutting and edge sealing

Step	Tool / practice	Note
Cutting	Diamond wheel / abrasive saw, fine-tooth hand saw	Never cut with an axe or nippers
Dust	Wear P2 / P3 respirator, extract dust	Glass fibre dust is irritant
Edge seal	Brush 2 coats of matched resin (isophthalic / vinylester)	Seal within 24 h of cutting
Finished edge	Seal covers the cut glass fibres fully	No bare roving visible
Drilling	Carbide or diamond drill, slow speed	Back the panel to avoid delamination

Torque figures are hand-tight only; FRP is not steel and over-torque crushes the resin-rich surface and loosens the clip in service.

Appendix A — Multilingual glossary (EN / DE / ES / FR)

English	Deutsch (DE)	Español (ES)	Français (FR)
FRP / GRP grating	GFP-Gitterrost / GFK-Gitterrost	Rejilla PRFV	Caillebotis PRV
Fibreglass / fiberglass	Glasfaser / GFK	Fibra de vidrio	Fibre de verre
Moulded grating	Pressguss-Gitterrost	Rejilla moldeada	Caillebotis moulé
Pultruded grating	Pultrusions-Gitterrost	Rejilla pultruida	Caillebotis pultrudé
Resin	Harz	Resina	Résine
Isophthalic polyester	Isophthalsäure-Polyester	Poliéster isoftálico	Polyester isophtalique
Vinyl ester	Vinylester-Harz	Resina viniléster	Résine vinylester
Barcol hardness	Barcol-Härte	Dureza Barcol	Dureté Barcol
Load / deflection	Last / Durchbiegung	Carga / flecha	Charge / flèche
Span	Stützweite	Luz	Portée
Clip / fastener	Klammer / Befestiger	Abrazadera / fijación	Agrafe / fixation
Kick plate / toe board	Riffelblech / Fußleiste	Zócalo	Plinthe
Handrail / guardrail	Handlauf / Schutzgeländer	Pasamanos / barandilla	Garde-corps / main courante

DE = GFK (glasfaserverstärkter Kunststoff) · ES = PRFV (plástico reforzado con fibra de vidrio) · FR = PRV (plastique renforcé de fibres de verre).

Appendix B — How to order

Step	What to send us	What we return
1. Brief	Application, medium, temperature, span, load	Recommended build-up and resin
2. Drawing	Plan view, support layout, cut-outs	Cutting list and panel count
3. Confirm	Resin grade, colour, surface (smooth / concave / grit)	Pi with price and lead time
4. Production	Deposit received	Production, QA, packing
5. Shipment	Balance or LC	FOB Shanghai / CFR / CIF per agreed term

Commercial term	Value
Minimum order (MOQ)	10 m²
Standard lead time	12-36 working days (stock to production)
Exceptional lead time	Oversize, custom colour, new die, special resin — confirmed separately
Standard panel	1220 x 3660 mm; cut-to-size on diamond saw
Density	1.5-2.0 g/cm³ depending on resin and glass content
Barcol hardness	>= 40 on a sound panel
Quality system	GB/T19001-2000 idt ISO9001:2000 · reg. 01708Q11888R0S
Product test report	ASTM F3059 report 211122012SHF-001 (grating only)
Contact	sales@gratingfrp.com · www.gratingfrp.com · Nantong, China

We do not issue SGS load reports, ABS product design assessments, or named-customer case references without a written release. Any figure in this sheet is indicative for preliminary design and must be confirmed by a stamped project calculation before ordering.

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