



FIXINGS & ENGINEERING GUIDE

Clips · accessories · support frames · typical nodes · selection · RFQ

STEEL

FRP

STAIRS

TRENCH

2026 · PROJECT-READY EDITION



One package. Fewer site gaps.

The fixing is not an afterthought — it completes the load path from panel to structure.

PANEL



FIXING / EDGE



FRAME / SUPPORT



STRUCTURE

3

FIXING METHODS

4

MATERIAL OPTIONS

6

RFQ INPUT GROUPS

1

COORDINATED PACKAGE

Six chapters from selection to quotation

01 SELECT

Product · support · duty

02 FIXINGS

Steel · FRP · tread · trench

03 FRAMES

Angles · channels · bands

04 INSTALL

Workflow · typical nodes

05 MATERIALS

Finish · compatibility · checks

06 RFQ

Inputs · ordering · contact

Select the fixing by the interfaces

Start with the panel and support — then resolve duty, access and environment.

01

PRODUCT

Bar grating
FRP grating
Stair tread
Trench cover



02

SUPPORT

I-beam / angle
Channel / frame
Concrete
FRP structure



03

DUTY

Removable / fixed
Uplift / vibration
Corrosion
Access below



OUTPUT · FIXING FAMILY + MATERIAL + INSTALLATION NODE

Removable or permanent?

REMOVABLE

CLIP / BOLT

ACCESS Frequent maintenance

SITE No hot work

FINISH Coating preserved

CHECK Torque + retention

USE Platforms · covers

PERMANENT

WELD / ANCHOR

ACCESS Fixed installation

SITE Qualified hot work

FINISH Repair zinc / coating

CHECK Weld / anchor inspection

USE Frames · banding

Core fixing families

Three interfaces cover most grating, stair and trench-cover packages.

01

HOLD-DOWNS

Panel → support
Saddle · M-type · Z-clip · anti-lift

02

JOINERS

Panel → panel
G-clip · C-clip · splice connector

03

ANCHORS

Frame → structure
Wedge · chemical · J/L bolt · M12–M20

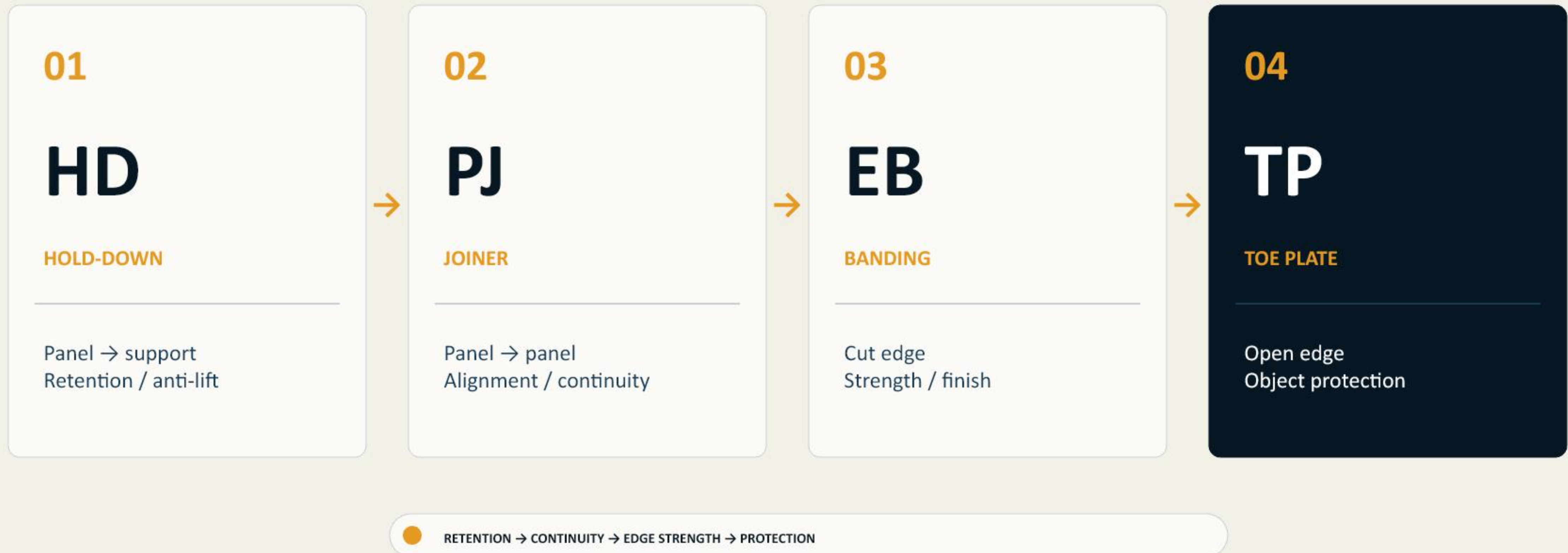


Steel grating fixing matrix

Final clip geometry is matched to bar spacing, support flange and underside access.

TYPE	PRIMARY USE	SUPPORT	RFQ INPUT
Saddle clip	Two panels at common beam	I / C / angle	Bar pitch
Hold-down	Single panel edge	Beam / angle	Edge access
G-clip	Adjacent-panel alignment	Shared support	Joint detail
Z-clip	Tight-clearance retention	Angle / channel	Underside access
Through-bolt	Banding to support	Angle / frame	Hole + bolt size
Weld lug	Permanent fixing	Steel only	Weld procedure
Anchor set	Frame to concrete	Concrete	Base plate + load
Anti-lift	Removable covers	Frame / angle	Uplift + lock

Four jobs at every panel edge



Stair tread fixings

Side plates transfer load to the stringer; bolted details support replacement while welded details suit permanent steel stairs.

CONNECTION	Bolted side plate · clip · weld
SUPPORT	Steel stringer
NOSING	Serrated · abrasive · contrast
EDGE	Banded side / closed end
HARDWARE	HDG · 304 · 316L
RFQ INPUT	Tread width · load · stringer



FRP grating fixing matrix

Use compatible hardware, seal cut edges and verify access from below.

TYPE	PRIMARY USE	GRATING	INSTALL NOTE
M-clip	Hold down two load bars	Molded / open mesh	Common selection
L-clip	Single-bar hold-down	Molded	Light duty
C-clip	Join adjacent panels	Molded	Unsupported edges
W-clip	Flush hold-down	Covered / HLC	Low-profile top
J-clamp	Clamp to flange	Molded / pultruded	No top drilling
FC-clip	Pultruded hold-down	I-bar / T-bar	Match profile
Panel connector	Limit differential movement	Panel joints	Support preferred
Insert clip	Concealed retention	Selected decking	Series-specific

Trench cover restraint

Seat covers on a continuous frame and restrain them against uplift, movement and unauthorized removal where required.

FRAME	L-angle · embedded / bolted
RETENTION	Anti-lift bolt · lock · clip
BEARING	Continuous level seat
ISOLATION	Neoprene option
LIFTING	Key · handle · lifting point
RFQ INPUT	Clear opening · load · access



Support frames

Fabricated frames coordinate bearing, openings, anchors and edge protection before panels arrive on site.

PROFILE	L-angle · C-channel · I-beam
STEEL	Q235B · SS400
EDGE BAND	40–100 × 4–10 mm
TOE PLATE	100 × 4 mm
CONNECTION	Splice · gusset · pre-drill
FINISH	HDG ≥85 μm · 304 · 316L · RAL



Profile first, connection second

Choose the member for bearing and span; then coordinate splice, gusset and anchor details.



L-ANGLE

PERIMETER SEAT

Continuous edge bearing



C-CHANNEL

CROSS SUPPORT

Support between primary beams



I-BEAM

MAIN SPAN

Primary support member



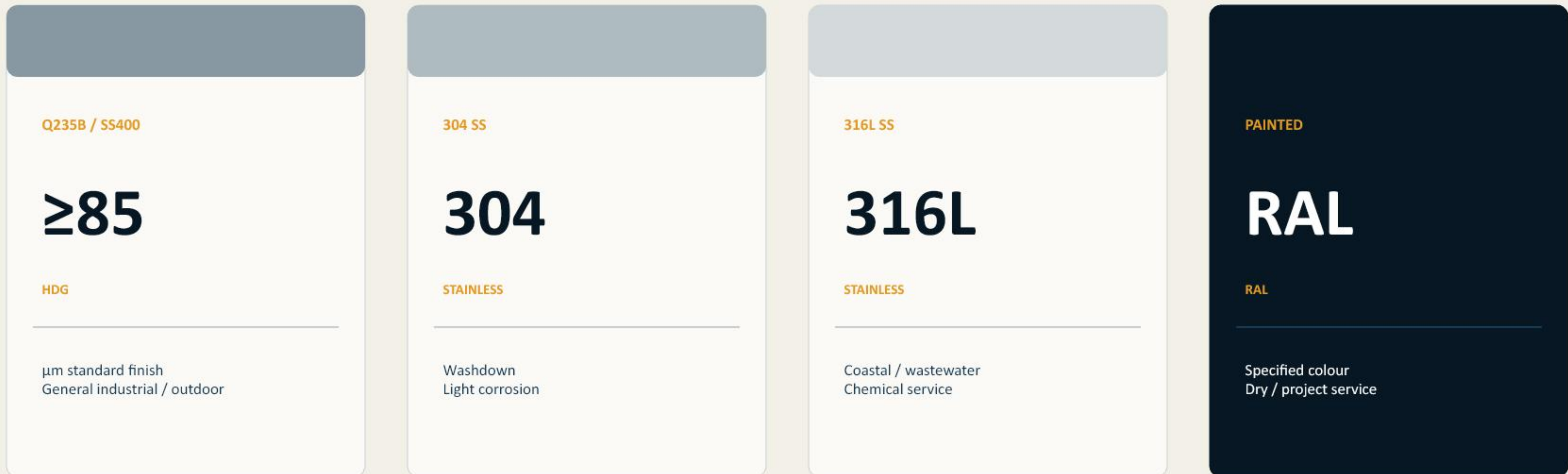
SPLICE / GUSSET

CONNECTION

Predrilled · welded · anchored

Material and finish ladder

Start with the environment, then resolve dissimilar-metal interfaces and the project coating standard.



Support requirements

Bearing bars span support-to-support; load-carrying cut edges should not be left unsupported.

CONDITION	BEARING	EDGE	SITE CHECK	DRAWING
Main span	Full level seat	Band / close	Direction	Support centres
Panel joint	Shared support	Join if needed	Alignment	Joint detail
Cut-out	Local framing	Seal / band	Clearance	Opening detail
Removable cover	Continuous frame	Anti-lift	Lifting access	Lock detail



Banding closes the panel. Toe plate protects the edge.

STRENGTH + FINISH

EDGE BANDING

LOCATION	Cut panel ends
METHOD	Weld steel / bond FRP
DEPTH	Match panel
DUTY	Trim or load-carrying
INPUT	Edge condition

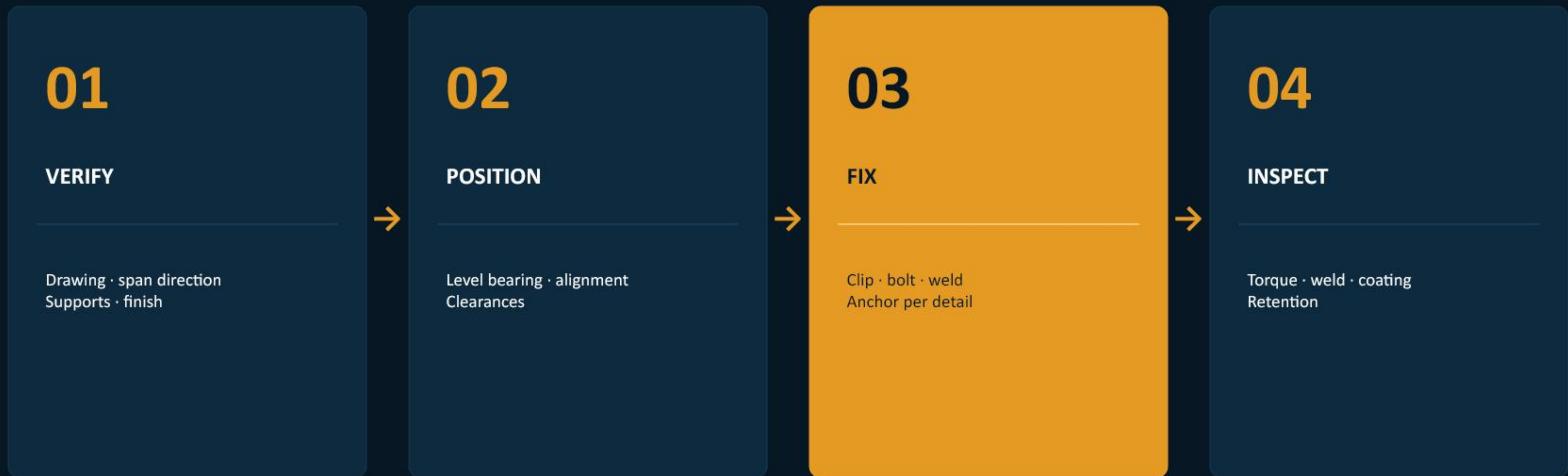
OBJECT PROTECTION

TOE PLATE

LOCATION	Open platform edges
NOMINAL	100 × 4 mm
METHOD	Welded or bolted
CONTINUITY	Coordinate posts
INPUT	Standard / project

Four-stage installation workflow

Use approved drawings, isolate dissimilar metals and record final checks.

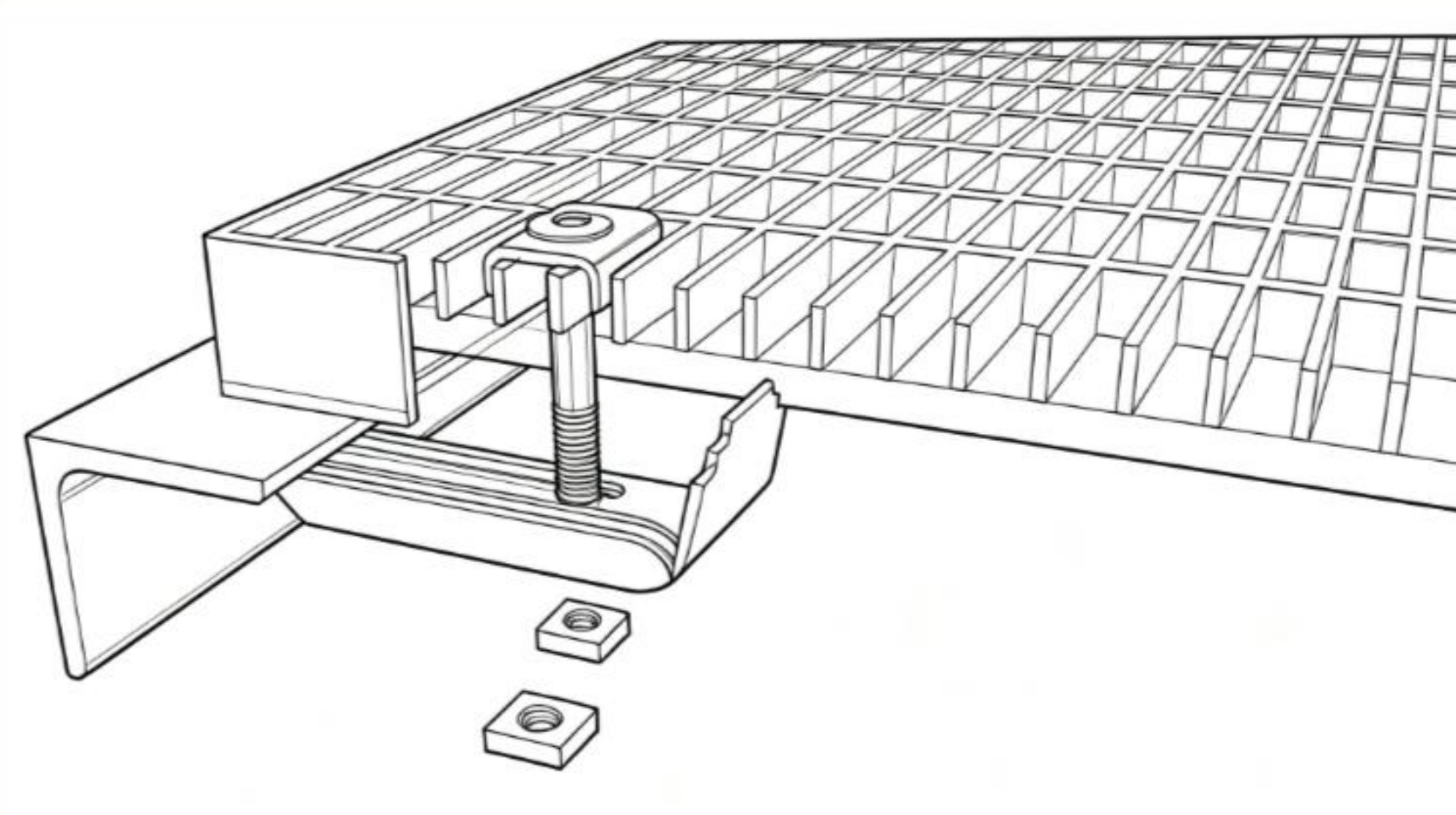


Steel grating — hold-down to beam

Typical only: match clip to bar pitch, support flange, underside access and uplift / vibration duty.

BEARING BARS ALIGN WITH SPAN

STEEL SUPPORT FLANGE

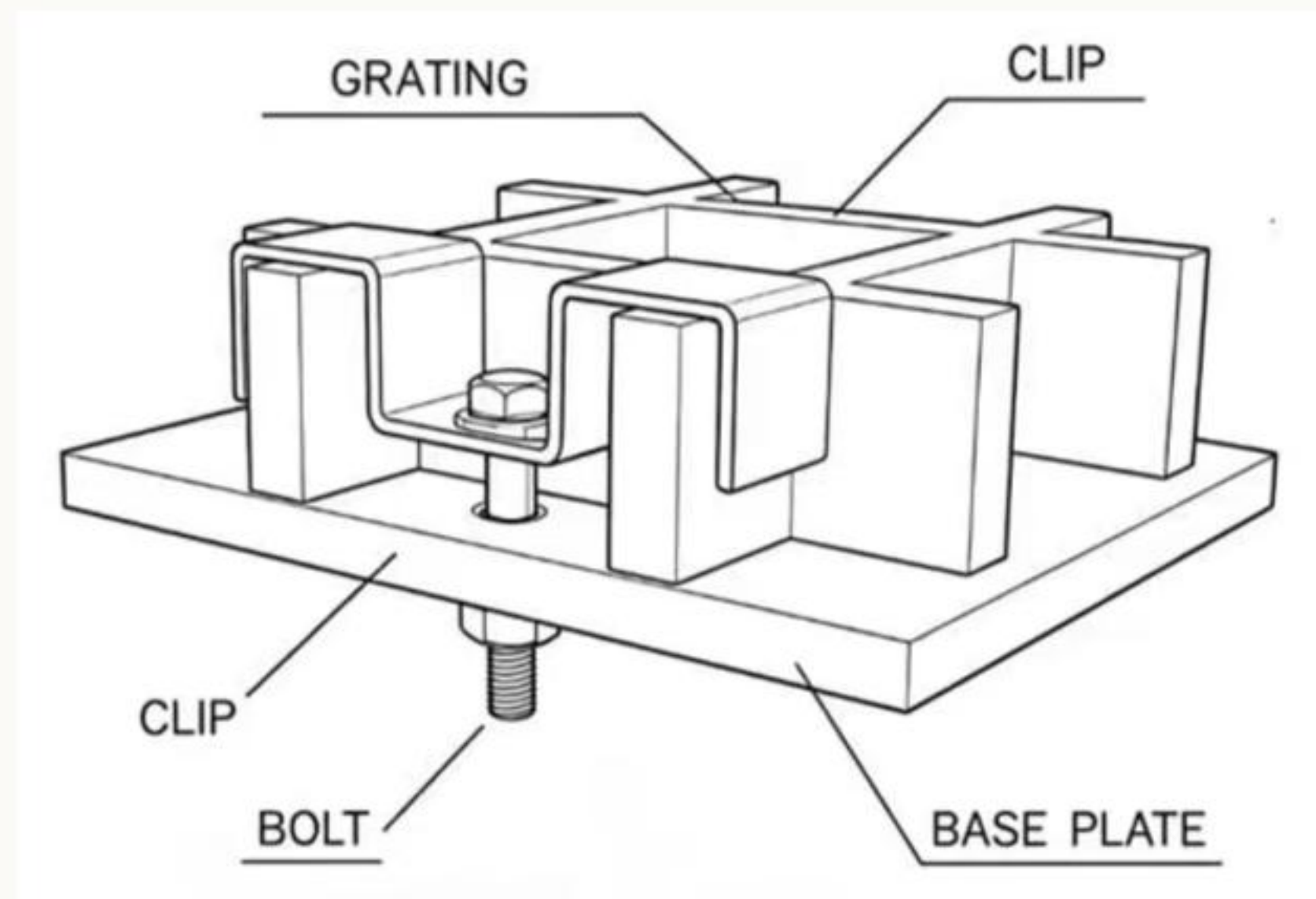


SADDLE / HOLD-DOWN

BOLT SET · REMOVABLE

FRP grating — clip and panel joint

Seal cut edges, use compatible hardware and locate panel joints over support where practical.



C-CLIP · PANEL JOINT

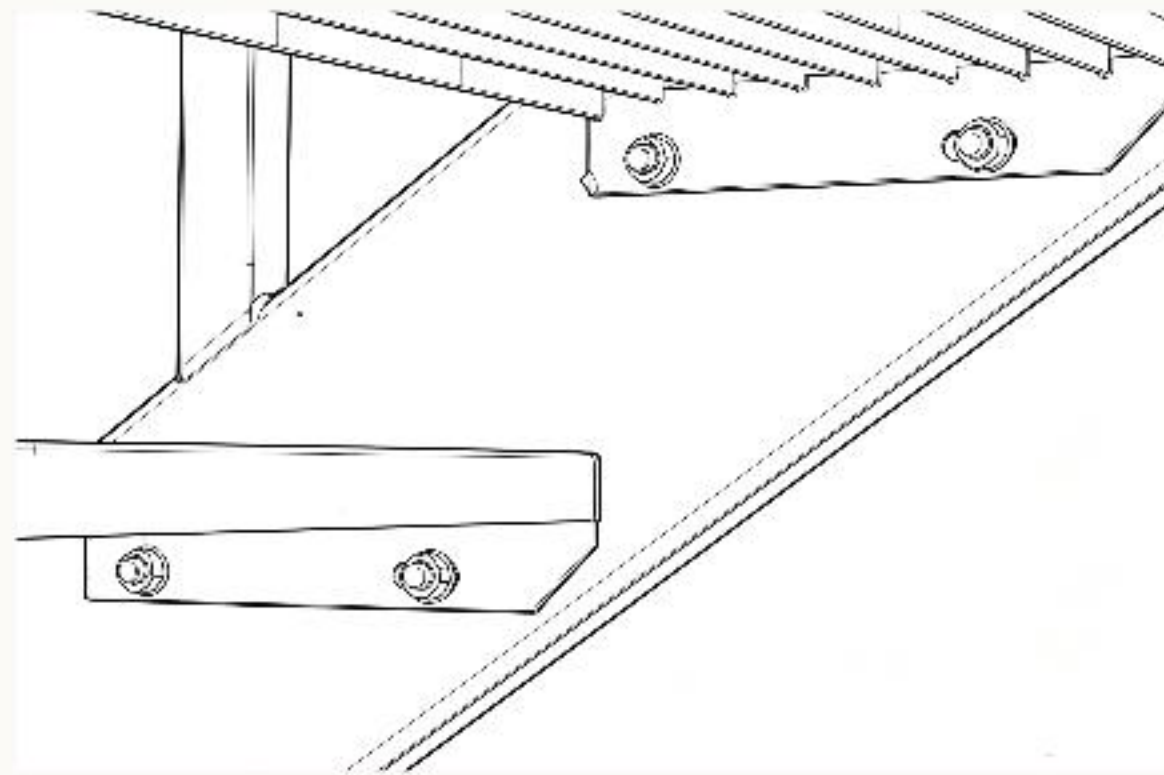
M-CLIP · TWO LOAD BARS

316L HARDWARE

Two edge conditions — tread and trench

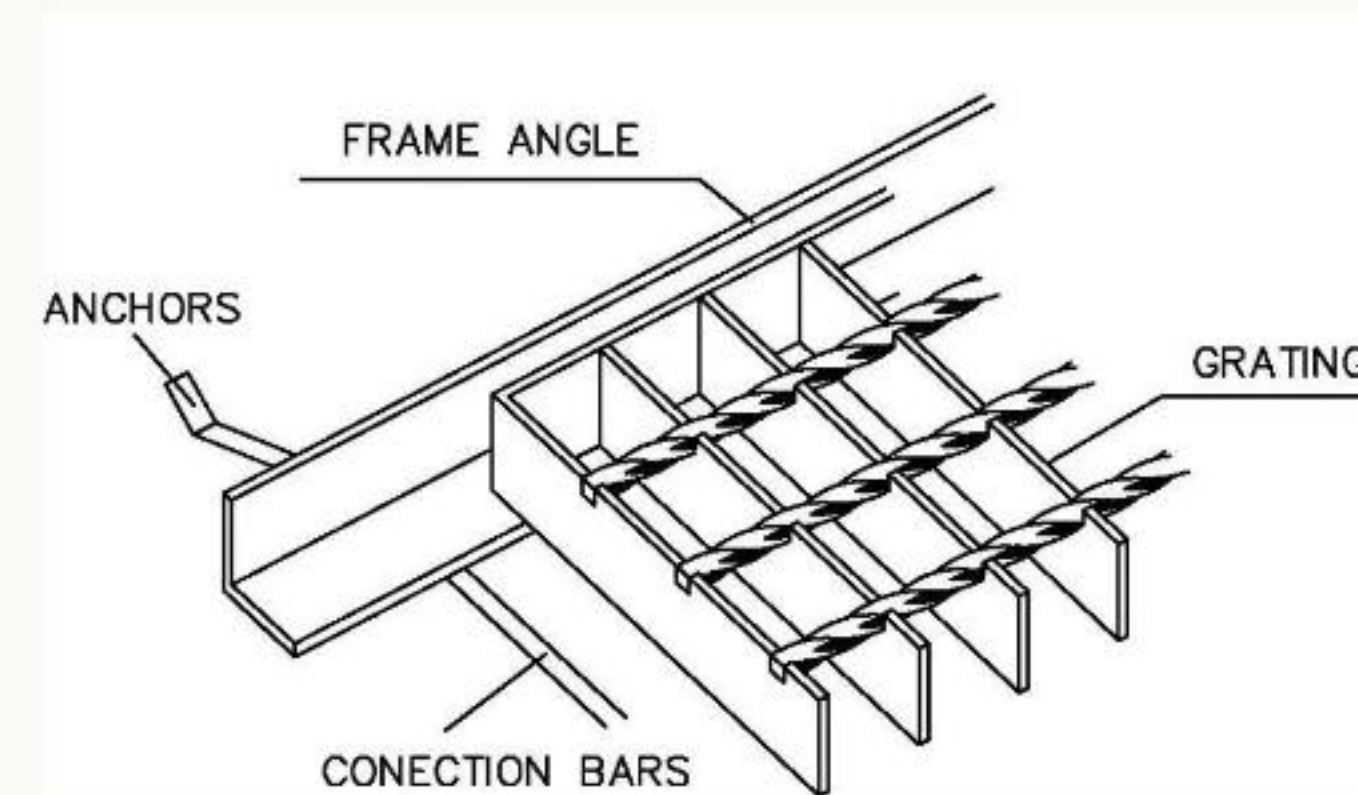
Final holes, anchors, welds, clearances and locking details are project-specific.

A · STAIR TREAD



SIDE PLATE → STRINGER

B · TRENCH COVER



ANGLE FRAME + ANCHORS

Material compatibility — starting point

Final selection must be reviewed against process chemistry, temperature and the project standard.

ENVIRONMENT	FRAME	CLIP	ANCHOR
Dry indoor	Painted / HDG	HDG / 304	Zinc / HDG
General outdoor	HDG	304 / 316L	HDG / 304
Wet washdown	304 / 316L	316L	304 / 316L
Coastal / marine	316L / reviewed HDG	316L	316L
Wastewater	316L / FRP support	316L	316L
Chemical process	FRP / 316L review	316L	316L
High temperature	Engineer review	Matched alloy	Engineer review
Dissimilar metals	Isolate interfaces	Match / isolate	Isolate

Inspection keeps fixings reliable

Intervals depend on environment, traffic, vibration and owner requirements.

01

AFTER INSTALL

Seating · retention
Torque / weld
Coating repair

02

ROUTINE WALKDOWN

Loose hardware
Panel movement
Corrosion

03

VIBRATION AREAS

Shorter interval
Anti-vibration detail
Trend changes

04

REPAIRS

Replace hardware
Restore zinc / coating
Reseal FRP cuts

Engineering RFQ checklist

Send these six inputs — panels, frames, fixings and drawings can then be coordinated as one package.

01**PRODUCT**

Grating · tread · trench · FRP

02**GEOMETRY**

Plan · clear span · bearing direction

03**LOAD**

UDL · point · vehicle · uplift

04**SUPPORT**

Beam · angle · channel · concrete

05**ENVIRONMENT**

Indoor · outdoor · coastal · chemical

06**STANDARD**

US · EN · AS · ISO · owner spec

Fixing & frame order data

For replacement hardware or frame-only orders, include the matching panel and support information.

01

FAMILY

Saddle · hold-down · joiner · anchor

02

GRATING

Type · bar / mesh · depth · pitch

03

SUPPORT

Profile · flange · underside access

04

MATERIAL

HDG · 304 · 316L · RAL

05

QUANTITY

Panels · clip count · spares

06

DRAWING

Layout · node · revision

Send the fixing schedule

We will coordinate the selected panel, frame, hardware and typical connection details.

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SCAN FOR WEBSITE



BUILD THE CONNECTION

Panels, frames and fixings — coordinated as one project-ready package.

US

EN

AS

ISO

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