WIBERG

STEEL BAR GRATING

MASTER CATALOG

Selection · Load Basis · Fabrication · Installation

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01 · ENGINEERED SUPPLY

The panel is only one part of the solution

A reliable floor coordinates geometry, load path, fabrication, support, restraint and evidence.

01 SELECT

Construction, spacing and surface fit the operating area.

02 VERIFY

Span, load case and deflection are checked on the exact geometry.

03 FABRICATE

Panelization, cut-outs, banding and toe plates follow approved drawings.

04 DELIVER

Grating, frames, clips and order documents arrive as one coordinated package.

02 · CHOOSE THE CONSTRUCTION BEFORE THE BAR SIZE

Every grating family solves a different operating problem

Start with duty, surface condition and opening control; then size the bearing bars.

FAMILY	BEST FIT	KEY DECISION	TYPICAL PROJECT USE
Welded	General industrial duty	Rigid forge-welded intersections	Platforms · walkways · stairs
Press-locked	Clean appearance	Smooth grid and precise lines	Architectural · public-facing
Serrated	Wet / oily zones	Enhanced top-edge traction	Process areas · outdoor access
Close-mesh	Reduced openings	15 / 20 / 25 mm bearing pitch	Public access · dropped-object control
Heavy-duty	Wheel and equipment loads	Panel + frame + restraint	Traffic lanes · docks · trenches
Stainless	Corrosive / hygienic service	304 vs 316L environment	Marine · food · chemical

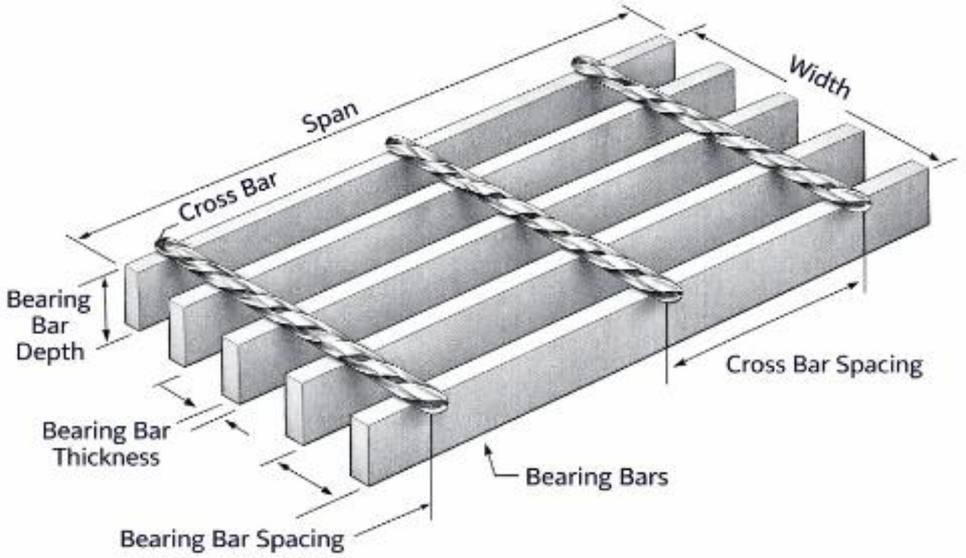
OPENING CONTROL

SELECTION RULE **A familiar model code never overrides the project load, clear span or support direction.**

03 · ONE DESIGNATION SHOULD REMOVE AMBIGUITY

The code must lock geometry, surface and finish

Use the same designation on the quotation, drawing, production list and packing mark.



CODE BLOCK	EXAMPLE	MEANING
Family	WBG	Welded bar grating
Material	CS	Carbon steel
Bearing bar	305	30 mm deep × 5 mm thick
Pitch	30/100	30 mm bearing / 100 mm cross
Surface	S	Serrated (P = plain)
Finish	HDG	Hot-dip galvanized

CODE EXAMPLE **WBG-CS-305-30/100-S-HDG**

04 · BEARING-BAR GEOMETRY SETS THE CAPACITY ENVELOPE

Use common series to plan; verify the final size against the load case

Metric dimensions are primary. Imperial / NAAMM designations can be quoted in parallel.

PARAMETER	COMMON PLANNING RANGE	PROJECT CONFIRMATION
Bearing bars	20×3 to 75×8 mm	Common: 25×5 · 32×5 · 40×5
Heavy-duty bars	50×5 to 100×10 mm	Grade and weld basis by calculation
Bearing pitch	30 · 34 · 40 mm	Closer pitch for opening / capacity
Cross-bar pitch	50 or 100 mm	Rigidity and opening requirement
Panel size	Up to 1000×6000 mm	Shipping, handling and galvanizing limits
Surface	Plain or serrated	Wet, oily and outdoor exposure

FUSED AT EVERY CROSSING

- Custom widths and cut-outs
- End banding and toe plates
- Plain, serrated or plated surface

05 · CONSTRUCTION CHOICE

Welded for duty; press-locked for a clean grid

Choose by loading, appearance and fabrication requirements.

WELDED · RIGID INTERSECTIONS

20×3 to 75×8 mm bearing bars
30 / 34 / 40 mm bearing pitch
Industrial platforms, walkways and stairs

PRESS-LOCKED · PRECISE GRID

20×3 to 50×5 mm bearing bars
30 / 40 mm bearing pitch
Architectural and flush-surface applications

DECISION **Where impact, wheel traffic or demanding fabrication governs, verify that the selected construction is suitable before sizing.**

06 · SURFACE AND OPENING CONTROL

Specify traction and fall-through criteria separately

Serration does not make an opening smaller; close mesh does not replace a wet-surface review.

SERRATED SURFACE

PLAIN / SERRATED CONSTRUCTION

CONDITION	STARTING CHOICE
Dry industrial access	Plain or serrated per HSE
Wet / oily exposure	Serrated; verify slip criteria
Reduced object drop	15 / 20 / 25 mm pitch
Ball-proof requirement	State test sphere and standard
Public / accessibility	State opening and direction limits

DO NOT ASSUME **“Close mesh”, “heel-safe”, “ADA” and “ball-proof” require the exact opening rule or test criterion in the RFQ.**

07 · MATERIALS AND FINISHES

Protect the complete assembly, not only the panel

Include cut edges, clips, frames and fasteners in the corrosion strategy.

STAINLESS 304 / 316L

UNTREATED / FIELD COATED

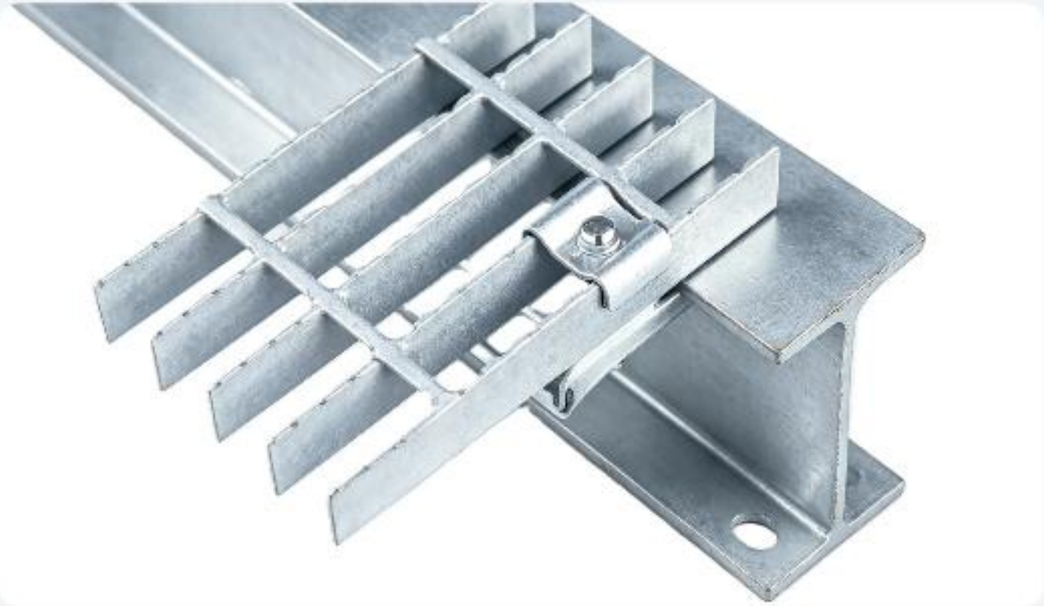
OPTION	TYPICAL ENVIRONMENT	CONTROL POINT
Carbon steel + HDG	General outdoor / industrial	ASTM A123 or EN ISO 1461
Carbon steel, bare	Embedment / field coating	Coating system and edge treatment
Stainless 304	General corrosion / hygienic	Finish and contamination control
Stainless 316L	Chloride / marine / chemical	Matching clips and bolts
Structural grade	Heavy-duty load path	A572 Gr.50 / S355 as specified

FINISH NOTE **Coating thickness, surface preparation and repair method belong in the order specification - not in a generic product name.**

08 · CAPACITY FOLLOWS THE BEARING BARS ACROSS THE CLEAR SPAN

Define the load case before opening a load table

Strength, deflection, local load distribution and support details must refer to the same product geometry.



01	SPAN	Clear distance between supports in the bearing-bar direction
02	LOAD	Uniform, concentrated, line, wheel and dynamic effects
03	LIMIT	Allowable stress / factored basis and deflection criterion
04	INTERFACE	Seat width, edge condition, frame, clips and movement

BEARING DIRECTION **Both ends of every bearing bar must be supported. Cross bars stabilize the panel; they are not the primary spanning members.**

09 · A LOAD TABLE IS VALID ONLY WITH ITS STATED BASIS

Standard-duty reference: allowable uniform load in kPa

Welded 19-W-4 · 4.8 mm bearing-bar thickness · Fy 248 MPa · simple span · ASD basis.

BEARING BAR	610 mm	915 mm	1220 mm	1525 mm
25.4×4.8 mm	21.1	9.3	5.3	-
31.8×4.8 mm	31.8	14.1	7.9	5.1
38.1×4.8 mm	44.5	19.9	11.3	7.2
44.5×4.8 mm	60.3	26.8	15.1	9.6
50.8×4.8 mm	77.6	34.5	19.4	12.4

HOW TO READ

01 Find the exact bearing-bar size.

02 Move to the actual clear span.

03 Compare the allowable value with the project load.

04 Check deflection and any point / wheel load separately.

REFERENCE ONLY **Converted from WIBERG's published imperial reference table. Final capacity is confirmed for the exact material, pitch, surface and support condition.**

10 · HEAVY-DUTY SELECTION

Vehicle duty requires a complete load-path design

Wheel data, frame stiffness, support seat and restraint must be designed together.

REQUIRED INPUT	WHY IT MATTERS
Vehicle / equipment mass	Defines the governing axle load
Axle and wheel arrangement	Controls the number of bars engaged
Tyre / contact footprint	Controls local stress distribution
Movement and impact	Turning, braking and edge crossing
Clear span / support width	Sets panel and frame demand
Traffic frequency	Fatigue, wear and maintenance basis

SYSTEM HOLD POINT **Do not assign a vehicle rating from gross vehicle mass or an EN 124 class to the grating panel alone.**

11 · STAIR TREAD ASSEMBLIES

Coordinate grating, nosing, side plates and stringer holes

Select span and bar size first; then lock walk depth, nosing and connection geometry.

TREAD INPUT	COMMON STARTING POINT
Walk depth	222 · 250 · 283 · 305 mm
Bearing bar	Selected from tread span and load
Nosing	Checker plate or serrated edge
Side plate	Bolted or welded to project detail
Surface	Plain / serrated per operating area
Finish	HDG · 304 · 316L

DRAWING CONTROL **State tread length, walk depth, nosing type, side-plate geometry, bolt-hole centers, quantity and stair standard.**

12 · TRENCH COVERS DEPEND ON THE EDGE AND RESTRAINT DETAIL

Panel, frame, support seat and locking method share the load path

State whether the opening carries pedestrians, carts, forklifts or road vehicles.

DESIGN ITEM	CONFIRM BEFORE QUOTATION
Opening	Clear span · length · drainage geometry
Duty	Pedestrian · cart · forklift · vehicle
Frame	Angle / channel · support width · anchorage
Panel edge	Banding · end plate · lifting feature
Restraint	Clip · bolt · lock · anti-rattle detail
Maintenance	Removable panel size and handling mass

EDGE CROSSING **Wheel paths near panel edges and joints can govern. Mark the travel direction and most unfavorable wheel position.**

13 · DRAWING-LED FABRICATION

Good panelization reduces site work and installation risk

Every cut-out, band and toe plate should be visible on the approved drawing.

PLATED / COMPOSITE OPTION

FABRICATION SCOPE

- Straight and circular cuts
- Notches around columns / pipes
- End and load-carrying banding
- Toe plates and kick plates
- Checker plate / closed-surface zones
- Panel marks and erection drawings

NESTING RULE **Bearing direction, support lines and removable-panel limits must be fixed before the panel list is released.**

14 · FIXING AND INSTALLATION

Positive restraint prevents panel movement and uplift

The fixing must match both the grating profile and the supporting steelwork.

FIXING ROUTE	WHEN TO USE	ORDER INPUT
Saddle / top clip	Removable panels	Pitch · bar thickness · support
G / beam clip	No-drill flange fixing	Flange width and thickness
Welded fixing	Permanent carbon-steel work	Weld size · finish repair
Bolted plate	Heavy-duty restraint	Bolt grade · plate · frame
Panel joining clip	Alignment at panel joints	Joint location and opening

INSTALLATION CHECK

- Bearing bars fully seated
- End gaps and joints controlled
- All restraint points installed
- Coating damage repaired

15 · PROCESS CONTROL

Five visible control stages support consistent project delivery

01 BLANKING

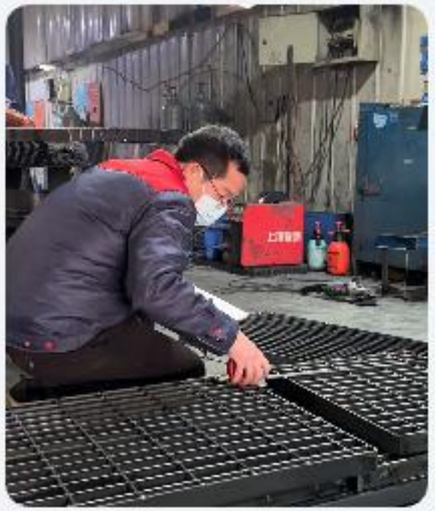
Bars cut and prepared

02 FORGE WELDING

Intersections fused

03 GALVANIZING

Coating to order basis



04 INSPECTION

Dimensions and finish checked

05 PACKING

Marks and bundles verified

TRACEABILITY Panel marks, approved drawings and packing identification should stay aligned through inspection and shipment.

16 · QUALITY EVIDENCE

Define the inspection package before production

Each record should match the acceptance basis agreed for the project.

CONTROL STAGE	TYPICAL CHECK	AVAILABLE RECORD
Incoming material	Grade and heat / batch	MTC / material certificate
Fabrication	Geometry, welds, cut-outs	Inspection checklist
Dimensions	Panel size, pitch, flatness	Dimensional report
Finish	Appearance and coating basis	Galvanizing / finish report
Packing	Marks, quantity, protection	Packing list / photos

CERTIFIED SCOPE **The legal manufacturer's ISO 9001:2015 certificate states the scope "production of steel grating." Project records are supplied as agreed.**

17 · STANDARDS AND SPECIFICATION

State the governing document and acceptance criteria

The destination market, approved drawing and project specification define the order basis.

REFERENCE SYSTEM	COMMON PROJECT REFERENCES	USE IN THE ORDER
North America	ANSI / NAAMM MBG 531 · ASTM material / HDG	Designation, loads, fabrication
Europe / UK	BS 4592 · EN ISO 14122 · EN ISO 1461	Access, dimensions, finish
Australia	AS 1657 · AS/NZS 4680	Access and galvanizing basis
China / metric	YB/T 4001.1 · GB material references	Metric designation and tolerances
Owner / EPC	Project specifications and approved drawings	Highest project precedence

ORDER OF PRECEDENCE

Project specification → approved drawings → WIBERG quotation/data sheet → general catalog guidance.

18 · APPLICATION SOLUTIONS

Operating conditions change the complete grating system

Select around access, corrosion, openings, support details and maintenance.

POWER & UTILITIES

Platforms · stairs · trench access

CHEMICAL & PROCESS

Serrated HDG or stainless systems

DATA & INDUSTRIAL FACILITIES

Ventilated floors · equipment access

SYSTEM VIEW **Include grating, frames, clips, edge protection, stairs, railings and drawings in one coordinated enquiry.**

WIBERG

A COMPLETE RFQ PRODUCES A BETTER GRATING

Send the engineering inputs once; receive a coordinated panel, fabrication and document proposal.

- Application and operating environment
- Uniform / point / wheel load and deflection limit
- Clear span and bearing-bar direction
- Construction, pitch, surface, material and finish
- Panel sizes, cut-outs, banding and toe plates
- Frames, clips, anchors and removable panels
- Governing standard and required documents
- Quantity, destination and delivery schedule

PROJECT SUPPORT

Engineering-led selection · Drawing-based fabrication · Export documentation

SCAN FOR RFQ

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