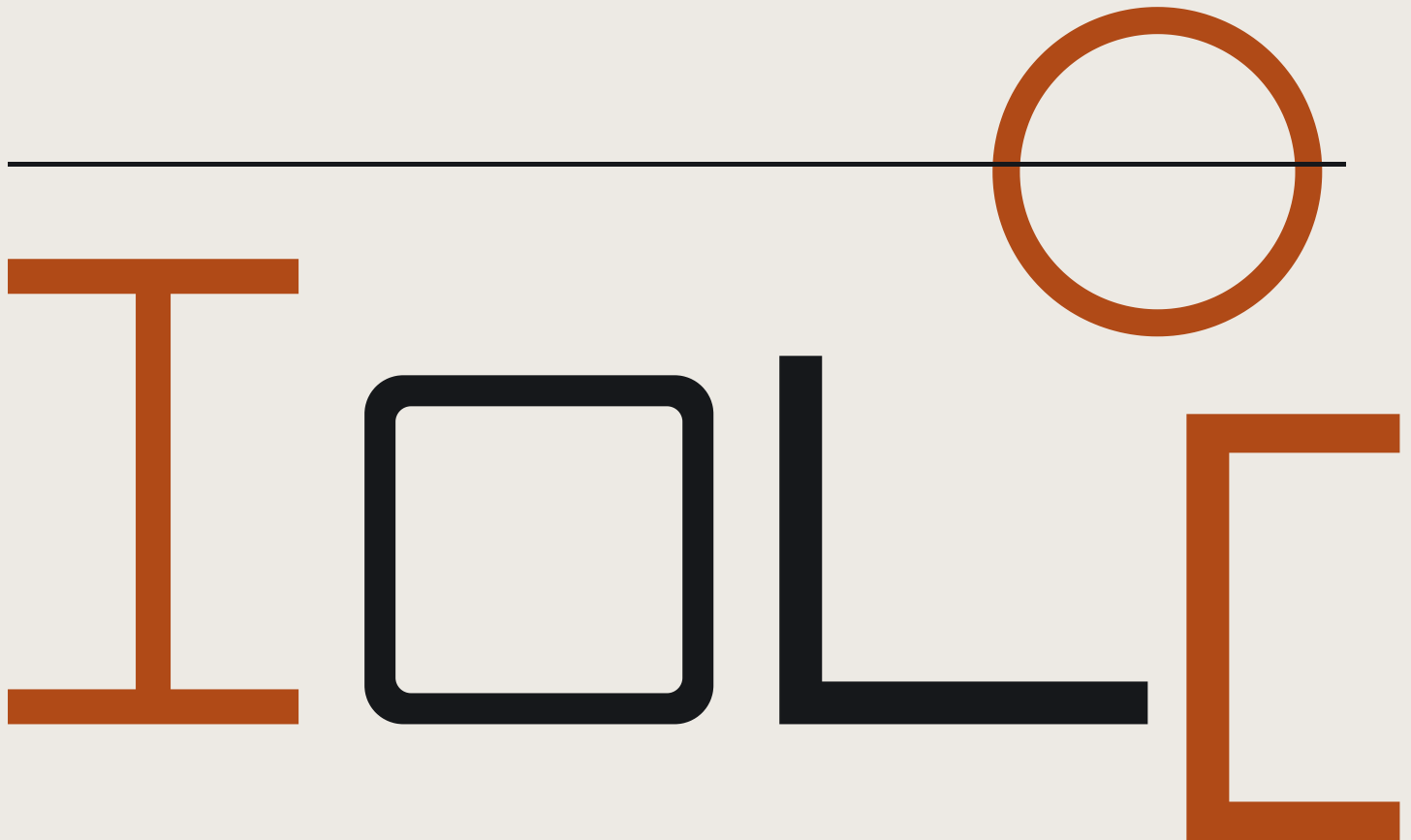




MULK TRADING – TECHNICAL PRODUCT CATALOGUE

METAL SUPPLY SPECIALISTS

Aluminium, stainless steel, coated steel, sections, mesh, copper, zinc, fixings and consumables. Sourced from producers and supplied with technical data and certified documents.

-
- | | | | |
|-------------------------------|-------------------------|---------------------------|----------------------------|
| 01 Aluminium | 02 Stainless Steel | 03 Carbon & Coated Steel | 04 Structural Sections |
| 05 Perforated, Mesh & Grating | 06 Architectural Metals | 07 Fixings & Substructure | 08 Fabrication Consumables |

ABOUT MULK TRADING

One partner for the metal your shop cuts, bends and welds.

Mulk Trading is the trading division of Mulk International. We supply fabricators with the metals, sections and fixings they use every week – and the technical detail to order them right first time.

01 Mill-direct supply Bought from producing mills and manufacturers, never from other traders. Origin stated on every quote.	02 One metal package Aluminium, stainless, steel, sections, mesh, fixings and consumables on a single enquiry.	03 Specification support Alloy, grade, temper, finish and coating matched to the application and exposure.
04 Documented quality Mill certificates to EN 10204, coating certificates and traceable heat or batch numbers.	05 Processed to size Cut-to-length, slitting, shearing, perforating, bending and coating before delivery.	06 Built for repeat orders Product codes and Specify-as lines make every repeat order identical to the last.

WHO WE SERVE

Façade & cladding	Solid aluminium, ACP cassettes, extrusions, subframes, fixings
Architectural metalwork	Balustrades, screens, canopies, decorative stainless
Steel fabrication	Plate, hollow and open sections, grating, secondary steel
Sheet metal & enclosures	Galvanised, pre-painted and cold-rolled sheet and coil
Interior metal fit-out	PVD stainless, brass, copper, trims and profiles

HOW TO USE THIS CATALOGUE

- Quote the **product code** (e.g. AL-SP) on enquiries – it maps directly to our supply records.
- Each product ends with a **Specify as** line: a complete order description to copy, edit and send.

CONTENTS

01	Aluminium AL-SP · AL-TP · AL-CC · AL-EX · AL-CP	04
02	Stainless Steel SS-SC · SS-DS · SS-TP · SS-BS · SS-BC	08
03	Carbon & Coated Steel CS-HR · CS-CR · CS-CQ · CT-GI · CT-AZ · CT-ZM · CT-PP	12
04	Structural Sections ST-HS · ST-OS · ST-CF	14
05	Perforated, Mesh & Grating MG-PF · MG-EX · MG-WM · MG-GR	16
06	Architectural Metals AM-WS · AM-BR · AM-CU · AM-ZN	18
07	Fixings & Substructure FX-FS · FX-AN · FX-RS · FX-SB	21
08	Fabrication Consumables CN-WD · CN-AB · CN-PR	23
09	Technical Reference Weights · Grade equivalents · Corrosion · Documentation	24
10	Ordering & Services Enquiry checklist · Processing · Terms	28

READING A PRODUCT CODE

AL Material family AL SS CS CT ST MG AM FX CN	-SP Product form e.g. SP sheet & plate, EX extrusion	+ spec Grade · temper · size · finish · standard · certificate
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01 ALUMINIUM

Rolled, extruded and composite aluminium for façade, architectural and general sheet-metal work. Alloys by EN AW / AA designation.

AL-SP Sheet

AL-TP Tread

AL-CC Coil

AL-EX Extrusion

AL-CP ACP

AL-SP

Aluminium Sheet & Plate

Mill-size sheet and plate, or cut-to-size from coil.

THICKNESS	0.5–6.0 mm sheet · 6–100 mm plate
SIZES	1250×2500 · 1500×3000 · 2000×4000 mm
TEMPERS	O · H1x · H2x · H3x · T6 / T651
SURFACES	Mill · brushed · anodised · PVDF / PE
PROTECTION	PE film; laser-grade for fibre laser
STANDARDS	EN 573-3 · EN 485-2/-4 · ASTM B209



SHEET / PLATE STACK – CUT SIZE OR COIL-CUT

ALLOY SELECTOR – RELATIVE RATINGS, INDICATIVE

ALLOY	TEMPERS	STRENGTH	FORMING	WELDING	TYPICAL FABRICATOR USE
1050A/1100	H14 · H24	●○○○○	●●●●●	●●●●●	Flashings, spun and drawn parts
3003	H14 · H24	●●○○○	●●●●●	●●●●●	General sheet metal, solid panels
3105	H14 · H24	●●○○○	●●●●○	●●●●○	Pre-painted sheet, soffits, gutters
5005	H14 · H24	●●○○○	●●●●○	●●●●○	Anodised panels — order AQ quality
5052	H32 · H34	●●●○○	●●●●○	●●●●○	Enclosures, tanks, bent brackets
5754	H22 · H111	●●●○○	●●●●○	●●●●●	Solid façade panels, cassettes
5083	H111 · H321	●●●●○	●●●○○	●●●●●	Structural and marine plate
6061/6082	T6 · T651	●●●●●	●●○○○	●●●○○	Machined plate, base plates

FABRICATOR NOTE

- Fold in H2x or O tempers (tighter bends, less springback than H1x); order anodising quality (AQ) for sheet to be anodised.

SPECIFY AS

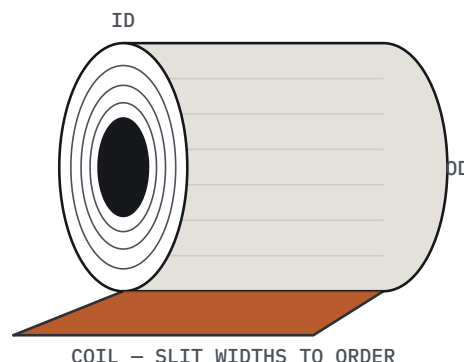
AL-SP · EN AW-5754 H22 · 3.0 × 1500 × 3000 mm · mill finish · PE film 1 side
· EN 485 · EN 10204 3.1 · 120 sheets

AL-CC

Aluminium Coil & Coil-Coated Sheet

Mill-finish and pre-painted coil for roll-forming, flashings and panels.

THICKNESS	0.2–4.0 mm
WIDTH	To 2000 mm; slit from 20 mm
COIL ID	405 · 505 · 508 · 610 mm
ALLOYS	1xxx · 3003 · 3105 · 5005 · 5754
COLOURS	RAL, NCS or project-matched
STANDARDS	EN 1396 · EN 485 · ASTM B209



COIL – SLIT WIDTHS TO ORDER

COIL COATINGS – FLUOROPOLYMERS TO AAMA 2605 · POLYESTERS TO EN 1396

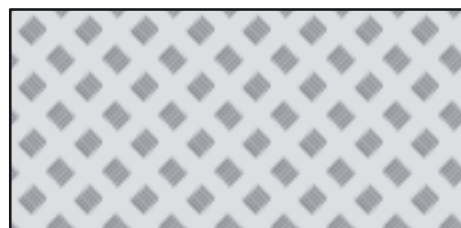
SYSTEM	RESIN BASIS	DURABILITY	TYPICAL USE
PE	Polyester	Moderate	Interiors, ceilings, low-exposure trim
HDPE	High-durability polyester	Good	Soffits, fascias, rainwater goods
PVDF 2-coat	70% PVDF resin	Excellent	Façade panels, copings, solid colours
PVDF 3-coat	70% PVDF + clear coat	Excellent	Metallic, mica, high-chroma colours
FEVE	Fluoropolymer (FEVE)	Excellent	High-gloss, vivid architectural colour

AL-TP

Aluminium Tread Plate

Stair treads, ramps, vehicle floors, kick plates and wall protection.

PATTERN	5-bar · diamond · 1-bar
ALLOYS	1050A · 3003 · 5052 · 5754
THICKNESS	1.5–6.0 mm base plate
SIZES	1250×2500 · 1500×3000 mm
FINISH	Mill · bright



5-BAR TREAD PATTERN

SPECIFY AS

AL-CC · EN AW-3105 H24 · 0.7 mm × 1250 mm coil · PVDF 2-coat RAL 7016 · ID 508 mm · AAMA 2605 · 5 t

AL-EX

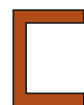
Aluminium Extrusions

Standard profiles from stock dies; custom dies to drawing.

PROFILES	Angle, channel, tee, flat, bar, square / rect. / round tube, top-hat
CUSTOM	To drawing; die cost and minimum run apply
LENGTH	6.0 m standard; cut-to-length
STANDARDS	EN 755-2 · EN 755-9 · EN 12020-2 · ASTM B221



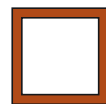
ANGLE



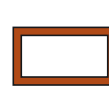
CHANNEL



TEE



SQ. TUBE



RECT. TUBE



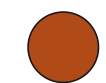
ROUND TUBE



FLAT BAR



TOP-HAT



ROUND BAR

ALLOY SELECTOR

ALLOY	TEMPERS	STRENGTH	FINISH QUALITY	TYPICAL USE
6060	T5 · T6 · T66	●●○○○	Excellent	Trims, glazing beads, decorative profiles
6063	T5 · T6	●●○○○	Excellent	Architectural frames, handrails
6005A	T6	●●●●○	Good	Façade brackets and carrier profiles
6061	T6	●●●●○	Fair	Structural members, machined fittings
6082	T6	●●●●●	Fair	Load-bearing frames, heavy brackets

FINISHES

FINISH	STANDARD	WHAT TO SPECIFY
Mill finish	—	For welding, machining or later finishing
Anodised	EN ISO 7599 · Qualanod	Class 20 exterior · class 25 coastal/severe
Powder coated	Qualicoat class 1 / 2 / 3	Class 2 or 3 for exterior façades
Liquid PVDF	AAMA 2605	Colour-match to coil-coated panels
Wood-grain	Sublimation over powder	Approve against a physical sample

FABRICATOR NOTES

- Anodised profiles and sheet must come from compatible alloys (6060/6063 with 5005 AQ) to match.
- Mark significant (visible) surfaces on drawings — finish class and inspection apply to those faces.

SPECIFY AS

AL-EX · EN AW-6063 T6 · RHS 50 × 25 × 2.0 mm · 6.0 m · powder coat Qualicoat class 2 RAL 9005 · 600 lengths

AL-CP

Aluminium Composite Panels (ACP / MCM)

Aluminium skins bonded to a core — includes Mulk group-manufactured panels.



SECTION THROUGH COMPOSITE PANEL (NOT TO SCALE)

THICKNESS	3 · 4 · 6 mm; 4 mm typical	COATINGS	PVDF · FEVE · PE; effects
SKINS	0.21–0.50 mm	FIRE TESTS	EN 13501-1 · NFPA 285 · BS 8414
WIDTHS	1250 · 1500 · 1575 · 2000 mm	FILM	Printed PE, direction arrows
LENGTHS	Cut-to-size to order	FAÇADES	0.50 mm skins, PVDF or FEVE

CORE SELECTION

CORE	COMPOSITION	REACTION TO FIRE (TYPICAL)	WHERE IT FITS
PE	Polyethylene	Not for building façades	Signage and interiors only
FR	Mineral-filled polymer	B-s1,d0 (EN 13501-1)	Façades where code accepts class B
A2	Predominantly mineral	A2-s1,d0 (EN 13501-1)	High-rise, limited-combustibility

FABRICATION & HANDLING

- Rout-and-return cassettes: groove the back skin and fold, leaving the face skin and a core web intact.
- Drill oversize holes for rivets and screws so panels can move thermally; use colour-matched rivet heads.
- Core choice follows the local fire code, building height and specification — request the matching test report.
- Install metallic and mica colours in the film-arrow direction; remove film promptly after installation.

SPECIFY AS

AL-CP · 4 mm ACP · FR core · 0.5 mm skins · PVDF 2-coat [colour ref.] · 1500 × 4000 mm · B-s1,d0 · 850 m²

02 STAINLESS STEEL

Austenitic, ferritic and duplex stainless in flat, decorative, tubular and bar forms. Grades by AISI / ASTM with EN numbers.

SS-SC Flat

SS-DS Decorative

SS-TP Tube

SS-BS Bar

SS-BC Balustrade

SS-SC

Stainless Sheet, Coil & Plate

Cold-rolled sheet and coil, hot-rolled plate, cut-to-size.

GRADE SELECTOR – PREN = CR + 3.3 MO + 16 N, INDICATIVE

GRADE	EN NO.	PREN	WHERE IT FITS
304	1.4301	≈19	Interiors, kitchens, general architectural work
304L	1.4307	≈19	Heavy welded assemblies — low carbon
316	1.4401	≈24	Exterior, coastal and splash-zone exposure
316L	1.4404	≈24	Welded exterior and coastal assemblies
430	1.4016	≈17	Interior decorative only — not for exterior
2205	1.4462	≈35	Severe marine exposure, high strength (duplex)

SURFACE FINISHES

FINISH	EN 10088-2	APPEARANCE	TYPICAL USE
1D	1D	Dull, hot-rolled texture	Plate, base plates, structural parts
2B	2B	Smooth, semi-bright	General fabrication, tanks, hidden parts
BA	2R	Bright, reflective	Trims, reflectors, decorative panels
No.4	2J / 2K	Brushed, directional	Kitchens, lift cars, cladding
HL	2J	Continuous hairline	Lifts, doors, trims, signage
No.8	2P	Mirror	Feature panels, ceilings, soffits

THICKNESS	CR 0.3–6.0 mm · plate 3–100 mm
SIZES	1219×2438 · 1250×2500 · 1500×3000

STANDARDS	ASTM A240 / A480 · EN 10088-2
PROTECTION	PE film; laser-grade on request

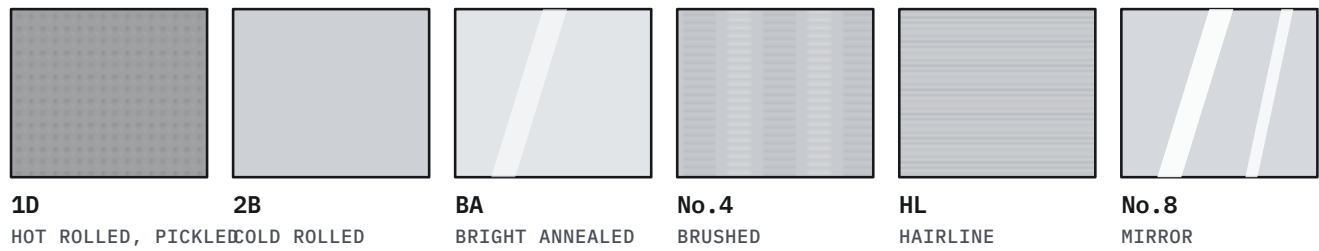
SPECIFY AS

SS-SC · 316L (1.4404) · No.4 / 2J · 1.5 × 1250 × 2500 mm · PE film 1 side · ASTM A240 · EN 10204 3.1 · 60 sheets

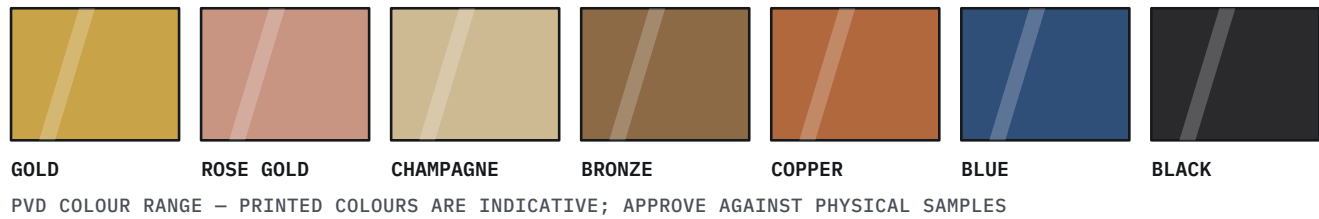
SS-DS

Decorative Stainless Steel

Finished sheet for lifts, entrances, feature walls, ceilings and joinery.



Standard mill and polished finishes — basis for every decorative process below.



DECORATIVE PROCESSES

PROCESS	WHAT IT IS	FABRICATOR NOTES
PVD colour	Vapour-deposited ceramic colour layer	Exterior: 316 base + supplier warranty
Mirror	Polished to No.8 reflectivity	Shows prints — pair with AFP coating
Bead-blasted	Uniform matte from bead blasting	Hides fingerprints; soft even sheen
Embossed / linen	Pattern rolled into the sheet	Stiffer, hides dents — lifts, doors
Etched	Chemically etched pattern	On mirror or hairline base
Vibration	Random, non-directional brushing	Hides scratches in high traffic
AFP coating	Clear anti-fingerprint layer	High-touch surfaces

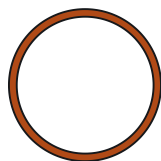
BASE GRADE	304 interior · 316 exterior	SIZES	1219×2438 · 1219×3048 mm
THICKNESS	0.5–3.0 mm	FILM	Laser-grade PE, printed

SPECIFY AS	SS-DS · 304 · PVD champagne on HL + AFP · 1.2 × 1219 × 3048 mm · laser film · match to approved sample · 40 sheets
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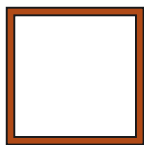
SS-TP

Stainless Tubes & Pipes

Ornamental tube for balustrades and frames; pipe where pressure or traceability applies.



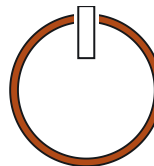
ROUND



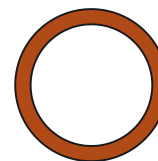
SQUARE



RECTANGULAR



SLOTTED ROUND



PIPE (HEAVY WALL)

ORNAMENTAL TUBE – ASTM A554 (WELDED) • 180 / 240 / 320 GRIT SATIN • 600 GRIT MIRROR

SHAPE	SIZE RANGE	WALL	TYPICAL USE
Round	9.5–219.1 mm OD	0.6–3.0 mm	Handrails 42.4 / 48.3 / 50.8 mm, frames
Square	10×10 – 150×150 mm	0.8–3.0 mm	Frames, balusters, furniture
Rectangular	20×10 – 200×100 mm	0.8–3.0 mm	Frames, screens, door stiles
Slotted round	42.4 · 48.3 · 50.8 mm	1.5–2.0 mm	Handrail cap on glass balustrade

PIPE – ASTM A312 / A778

PRODUCT	SIZE RANGE	SCHEDULES	FINISH
Welded pipe	½"–12" NPS	Sch 5S · 10S · 40S	Pickled; polished to order
Seamless pipe	½"–12" NPS	Sch 10S · 40S · 80S	Pickled
Larger sizes	To order	As specified	As specified

ROUND TUBE MASS (304)

$$m \approx 0.0249 \times t \times (D - t)$$

kg/m · D, t in mm · e.g. 42.4 × 1.5 → 1.53 kg/m

SQUARE / RECT. TUBE (304)

$$m \approx 0.0159 \times t \times (B + H - 2t)$$

kg/m · sharp-corner estimate, slightly high

FABRICATOR NOTE

- A554 is ornamental/mechanical tube — not for pressure. Specify A312 pipe where pressure rating or structural traceability is required.

SPECIFY AS

SS-TP · 316L · round 42.4 × 2.0 mm · ASTM A554 · 320 grit satin · 6.0 m · 150 lengths

SS-BS

Stainless Bars & Sections

Bar and section for brackets, fittings, machined parts and frames.

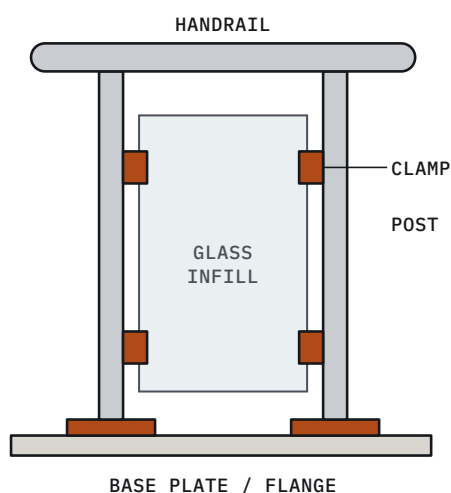
GRADES 304 / 304L / 316 / 316L – RANGES INDICATIVE

PRODUCT	STANDARD	TYPICAL RANGE	CONDITION
Round bar	ASTM A276 · EN 10088-3	Ø3–300 mm	Bright drawn, peeled, ground
Square bar	ASTM A276 · EN 10088-3	5–100 mm	Bright drawn or hot rolled
Hex bar	ASTM A276 · EN 10088-3	6–60 mm A/F	Bright drawn
Flat bar	ASTM A276 / A484	12×3 – 150×20 mm	Hot rolled pickled or slit
Equal angle	ASTM A276 · EN 10088-3	20×20×3 – 100×100×10	Hot rolled, pickled
Threaded rod	DIN 975 · ISO 3506	M6–M24	A2-70 / A4-70

SS-BC

Balustrade & Handrail Components

Posts, fixings and fittings for stainless and glass balustrades.



POSTS	Round or square; drilled or slotted for infill
BASE FIXINGS	Base plates, flanges, side-fix brackets
GLASS FIXINGS	Clamps and spigots rated per glass build-up
HANDRAIL	Brackets, elbows, end caps, joiners
INFILL	Cross-bars, wire-rope kits, mesh panels
LOADS	Check against design loads (e.g. BS 6180)

STAINLESS WORKSHOP DISCIPLINE

- Keep stainless away from carbon-steel dust, tools and racks — embedded iron rusts and stains the surface.
- Use dedicated stainless discs and brushes; clean and passivate welds before handover.
- Use 316 / 316L for exterior and coastal balustrades and handrails.

SPECIFY AS

SS-BC · 316 · round post 48.3 × 2.6 mm · 2 × clamps for 12 mm glass · base plate 100 × 100 × 8 · 320 grit · 40 sets

03 CARBON & COATED STEEL

Hot-rolled, cold-rolled and metallic-coated flat steel for general fabrication, enclosures, doors and cladding.

CS-HR Hot rolled

CS-CR Cold rolled

CS-CQ Chequer

CT Coated

CS-HR / CS-CR

Hot-Rolled & Cold-Rolled Steel

Sheet, plate and coil in structural and forming grades.

GRADE SELECTOR

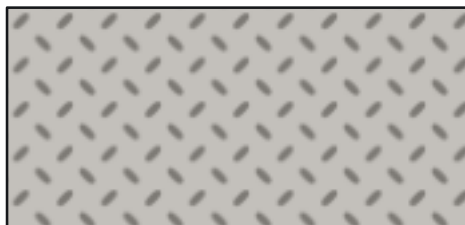
GRADE	STANDARD	≈ EQUIVALENT	TYPICAL USE
S235JR	EN 10025-2	A36 · SS400 · Q235B	General fabrication, brackets, frames
S275JR	EN 10025-2	A36 · SS400	Structural plate and brackets
S355JR / J2	EN 10025-2	A572 Gr.50 · Q355	Higher strength; J2 impact-tested -20 °C
DD11 / SPHC	EN 10111	A1011 CS	HR forming grade — pressing, bending
HRPO	Pickled & oiled	—	Scale-free for laser, paint and powder
DC01 / SPCC	EN 10130	A1008 CS	CR sheet — enclosures, doors, panels
DC04	EN 10130	A1008 DDS	Deep-drawn and complex formed parts

THICKNESS	HR 1.5–12 · plate 6–150 · CR 0.4–3.0 mm	SIZES	1250×2500 · 1500×3000/6000 · 2000×6000
CONDITION	Black · pickled & oiled · blasted & primed	TOLERANCES	EN 10051 · EN 10029 · EN 10131

CS-CQ

Chequer Plate

Anti-slip floor plate for platforms, stairs, trench covers and vehicle beds.



TEAR-DROP CHEQUER PATTERN

PATTERN	Tear-drop · diamond
THICKNESS	2.5–12 mm base plate
GRADE	S235JR · A36
SIZES	1250×2500 · 1500×3000 · 1500×6000
FINISH	Black · HDG after fabrication

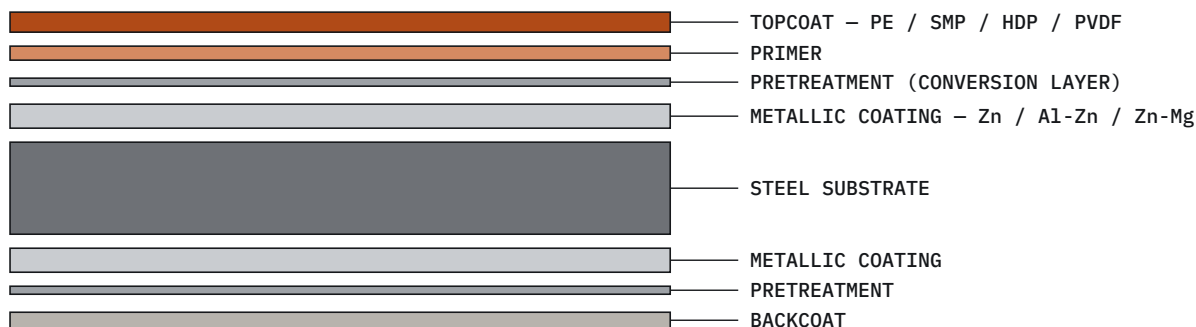
SPECIFY AS

CS-HR · S275JR · plate 10 × 2000 × 6000 mm · pickled & oiled · EN 10025-2 / EN 10029 · EN 10204 3.1 · 18 t

CT

Metallic-Coated & Pre-Painted Steel

Galvanised, zinc-aluminium, zinc-magnesium and coil-coated sheet and coil.



COIL-COATED STEEL BUILD-UP (PPGI / PPGL) – NOT TO SCALE

COATING SELECTOR

COATING	DESIGNATION	STANDARD	TYPICAL USE
CT-GI Hot-dip zinc	Z100–Z275	EN 10346 · ASTM A653	Doors, enclosures, louvres, flashings
CT-AZ Zinc-aluminium	e.g. AZ150	EN 10346 · ASTM A792	Roof and wall cladding, liners
CT-ZM Zinc-magnesium	e.g. ZM120	EN 10346	Harsh exposure, cut-edge protection
CT-EG Electro-galv.	e.g. ZE25/25	EN 10152	Painted enclosures, appliances
CT-PP Pre-painted	PE · SMP · HDP · PVDF	EN 10169	Cladding, doors, panels

BASE STEEL	DX51D–DX54D · S220GD–S350GD	SPANGLE	Regular · minimised
THICKNESS	0.3–3.0 mm	SURFACE	Passivated · oiled · AFP
WIDTH	600–1500 mm; slit to order	ASTM	G60 ≈ Z180 · G90 ≈ Z275

FABRICATOR NOTES

- Coating mass is the total of both sides: Z275 = 275 g/m² split across two faces.
- Weld galvanised steel with fume extraction; repair damaged coating with zinc-rich paint.

SPECIFY AS

CT-GI · DX51D+Z275 · 1.2 × 1250 mm coil · minimised spangle · passivated · EN 10346 · ID 508 mm · 20 t

04 STRUCTURAL SECTIONS

Hollow and open hot-rolled sections plus cold-formed profiles for frames, subframes, canopies and secondary steel.

ST-HS Hollow

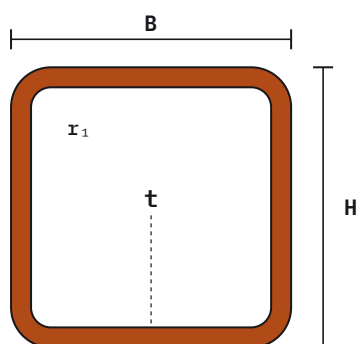
ST-OS Open

ST-CF Cold-formed

ST-HS

Structural Hollow Sections

SHS, RHS and CHS — cold-formed and hot-finished tube.



r_0 = external corner radius

STANDARDS	EN 10219 (cold-formed) · EN 10210 (hot-finished) · ASTM A500 Gr.B / C
GRADES	S235JRH · S275J0H · S355J2H
FINISH	Black · varnished · pre-galvanised · HDG after fabrication (ISO 1461)
LENGTH	6.0 m standard; 12.0 m to order
LIGHT GAUGE	1.2–2.0 mm tube for enclosures, gates, furniture

POPULAR SIZES — THEORETICAL MASS, EN 10219-2 GEOMETRY, 7.85 KG/DM³

SHS B × B × t	kg/m	RHS B × H × t	kg/m	CHS D × t	kg/m
20×20×1.5	0.83	40×20×1.5	1.30	21.3×2.0	0.95
25×25×2	1.36	50×25×2	2.15	26.9×2.0	1.23
30×30×2	1.68	60×40×2	2.93	33.7×2.6	1.99
40×40×2	2.31	60×40×3	4.25	42.4×2.6	2.55
40×40×3	3.30	80×40×3	5.19	48.3×2.9	3.25
50×50×3	4.25	100×50×3	6.60	60.3×3.2	4.51
60×60×3	5.19	100×50×4	8.59	76.1×3.2	5.75
80×80×4	9.22	120×60×4	10.48	88.9×3.2	6.76
100×100×5	14.41	150×100×5	18.33	114.3×3.6	9.83
150×150×6	26.40	200×100×6	26.40	139.7×4.0	13.39

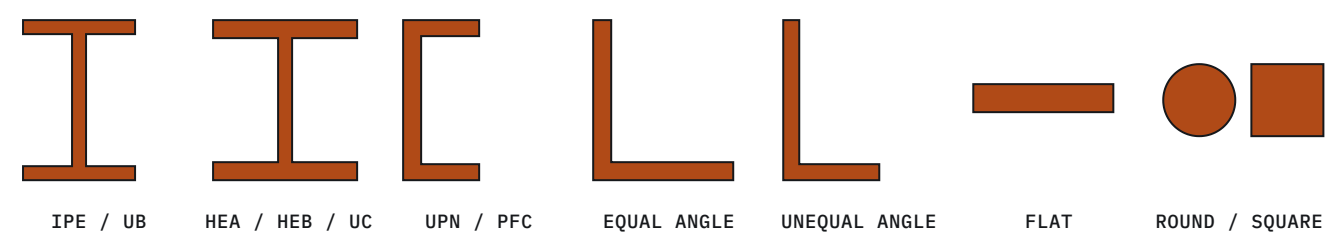
SPECIFY AS

ST-HS · S355J2H · SHS 80 × 80 × 4 mm · EN 10219 · pre-galvanised · 6.0 m · EN 10204 3.1 · 240 lengths

ST-0S

Open Sections & Bars

Hot-rolled angles, channels, beams, flats and bars.



GRADES S235JR / S275JR / S355JR (EN 10025-2) • ASTM A36 / A572 / A992

SECTION	DIMENSION STANDARD	TYPICAL RANGE
Equal angle	EN 10056-1	20×20×3 – 200×200×24
Unequal angle	EN 10056-1	30×20×3 – 200×150×18
UPN channel	DIN 1026-1 · EN 10279	UPN 50 – UPN 400
UPE channel	DIN 1026-2	UPE 80 – UPE 400
PFC	BS 4-1	100×50 – 430×100
IPE beam	EN 10365	IPE 80 – IPE 600
HEA / HEB	EN 10365	100 – 1000
UB / UC	BS 4-1	UB 127×76 – 914×419 · UC 152 – 356
W shapes	ASTM A6	W4 – W44
Flat bar	EN 10058	12×3 – 150×50
Round / square bar	EN 10060 · EN 10059	Ø6 – 200 · 6 – 100

ST-CF

Cold-Formed Sections

C, Z and top-hat profiles for canopies, purlins and secondary framing.

PROFILES	C · Z · sigma · top-hat · angle	MATERIAL	S350GD+Z275 · HR S235–S355
DEPTH	100–300 mm	THICKNESS	1.5–3.0 mm

SPECIFY AS	ST-0S · S275JR · UPN 100 · EN 10025-2 · DIN 1026-1 · black · 12.0 m · EN 10204 3.1 · 3.5 t
------------	--

05 PERFORATED, MESH & GRATING

Perforated and expanded sheet, welded and woven mesh and bar grating for screens, guards, walkways and façades.

MG-PF Perforated

MG-EX Expanded

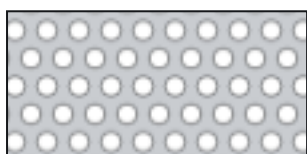
MG-WM Mesh

MG-GR Grating

MG-PF

Perforated Sheet

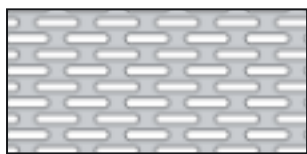
Standard and custom patterns in aluminium, stainless and steel.



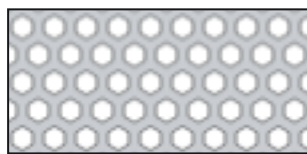
ROUND 60° STAGGERED



SQUARE STRAIGHT



SLOTTED STAGGERED



HEXAGON

OPEN AREA

PATTERN	OPEN AREA %
Round 60° stag.	$90.69 \times (d/p)^2$
Round straight	$78.54 \times (d/p)^2$
Square straight	$100 \times (c/p)^2$
Hexagon 60°	$100 \times (c/p)^2$

d = hole Ø · c = side or across-flats · p = pitch, centre to centre. Example: Ø5 at 8 mm pitch, 60° staggered → 35.4 %.

MATERIALS Al 1050A-5754 · SS 304/316 · MS · GI

THICKNESS 0.5–6.0 mm

SHEETS 1000×2000 – 1500×3000 mm

MARGINS Unperforated borders to order

HOLE RULE Hole Ø ≥ thickness; larger for SS

FINISH Levelled; powder · PVDF · anodised

MG-EX

Expanded Metal

Slit-and-stretched sheet — no material loss, strong and rigid.



LWD

SWD = short way of diamond
LWD = long way of diamond

TYPES	Standard (raised) · flattened
DESIGNATION	SWD × LWD × strand × thickness
MATERIALS	MS · GI · aluminium · stainless
USES	Screens, guards, walkways, façades
SHEETS	1250×2500 · 1500×3000 mm

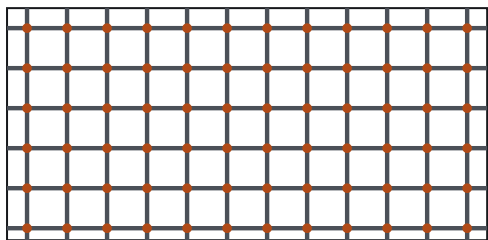
SPECIFY AS

MG-PF · EN AW-5005 H14 · 2.0 × 1250 × 2500 mm · Ø5 @ 8 mm 60° staggered · 20 mm margins · anodised class 20 · 80 sheets

MG-WM

Welded & Woven Wire Mesh

Infill, guards, fencing, screens and architectural mesh.



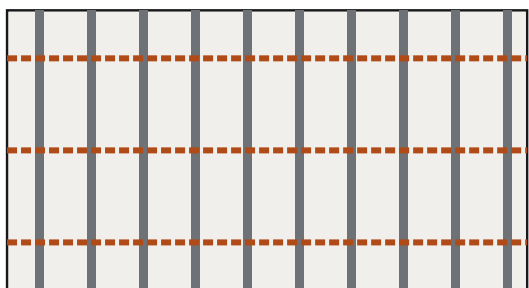
WELDED MESH – WELD AT EVERY INTERSECTION
Aperture measured wire-centre to wire-centre

WIRE	0.8–6.0 mm · GI · SS 304 / 316 · PVC-coated
APERTURE	6 × 6 – 100 × 100 mm
GALVANISING	Before or after welding — after is more durable
FORMS	Rolls · flat panels · cut-to-size
WOVEN	SS architectural and industrial (ISO 9044)

MG-GR

Steel & Stainless Bar Grating

Platforms, walkways, stair treads and trench covers.



BEARING BAR PITCH
Twisted cross bars at 50 / 100 mm pitch

BEARING BAR	25×3 – 65×5 mm
PITCH	30 / 34 / 40 mm bearing · 50 / 100 mm cross
TYPE	Pressure-welded · press-locked
SURFACE	Plain · serrated (anti-slip)
FINISH	HDG (ISO 1461 / ASTM A123) · SS 304 / 316
STANDARDS	DIN 24537-1 · ANSI/NAAMM MBG 531

GRATING PRODUCT	SUPPLIED AS	SPECIFY
Stair treads	Banded, with nosing and end plates	Width, going, fixing holes
Trench covers	Banded panels with angle frames	Clear span, load class
Platforms & walkways	Banded panels with saddle clips	Panel layout, span direction

FABRICATOR NOTES

- Select bar size from the manufacturer's load tables for clear span, load and deflection limit.
- Order gratings hot-dip galvanised after fabrication and banding; avoid site cutting of HDG panels.

SPECIFY AS

MG-GR · S235JR · 30 × 3 mm bearing @ 34 mm · cross 100 mm · serrated · HDG
ISO 1461 · 1000 × 5800 mm · 45 panels

06 ARCHITECTURAL METALS

Weathering steel, brass, bronze, copper and titanium-zinc for façades, roofs, screens and interiors.

AM-WS Weathering

AM-BR Brass/bronze

AM-CU Copper

AM-ZN Zinc



WEATHERING STEEL



COPPER – NATURAL



COPPER – PRE-PATINA



BRASS



BRONZE



TITANIUM-ZINC

METAL	GRADE / STANDARD	FORMS	BEHAVIOUR & FABRICATOR NOTES
AM-WS Weathering steel	S355J2W / J2WP (EN 10025-5)	Plate, sheet, laser-cut, perforated	Patina forms in wet/dry cycles. Detail drips so run-off does not stain paving.
AM-WS Weathering steel (US)	ASTM A588 Gr.A · A606-4	Plate, sheet, coil	Same behaviour; order to the project standard.
AM-BR Brass	CuZn37 CW508L · C27200	Sheet, strip, bar, tube	Lacquer to hold the colour or allow to darken.
AM-BR Cartridge brass	CuZn30 CW505L · C26000	Sheet, strip	Better cold forming for deep folds and spinning.
AM-BR Architectural bronze	C38500 (≈ CuZn39Pb3)	Extrusions, bar	Handrails, trims, door furniture, profiles.

WEATHERING 1.5–50 mm

BRASS & BRONZE 0.5–3.0 mm sheet

BEFORE ORDERING

- Weathering steel is not suitable where surfaces stay wet, in chloride-rich coastal air, or where run-off lands on stone, concrete or glazing.
- Approve patina and colour on physical samples; order all panels of one elevation from one batch.
- Copper and titanium-zinc have their own pages: 19 and 20.

SPECIFY AS

AM-WS · S355J2WP · 3 × 1500 × 3000 mm · EN 10025-5 · laser-cut to drawing · EN 10204 3.1 · 60 sheets

AM-CU

Copper Sheet, Strip & Coil

Architectural copper for façades, roofing, rainwater systems and interiors.

GRADE	Cu-DHP (CW024A) · C12200
STANDARDS	EN 1172 · EN 1652 · ASTM B152 / B370
THICKNESS	0.5–3.0 mm; 0.6–0.8 mm for roofs and façades
SIZES	Coil and strip to 1000 mm; sheet 1000×2000 · 1250×2500
TEMPERS	R220 soft · R240 half-hard · R290 hard
FINISHES	Natural · pre-oxidised · pre-patinated · tinned



NATURAL



WEATHERED BROWN



PRE-OXIDISED



PRE-PATINATED

APPLICATIONS – TYPICAL VALUES; FOLLOW THE SYSTEM DETAILS

APPLICATION	FORM	TYPICAL THICKNESS	TEMPER / NOTE
Façade cladding	Flat-lock, cassettes, interlocking panels	0.6–1.0 mm	R240
Standing-seam roofing	Double-lock or angle seam	0.6–0.7 mm	R220 / R240
Rainwater systems	Gutters, downpipes, outlets	0.6–0.8 mm	EN 612 dimensions
Flashings & details	Hand-formed trims and cappings	0.6–0.7 mm	R220 for tight folds
Interiors	Wall panels, ceilings, joinery	0.5–1.5 mm	Lacquer to hold colour

FABRICATOR NOTES

- Natural copper turns brown within months. A green patina takes many years and may not form in dry climates, so specify pre-patinated where green is needed from the start.
- Rainwater from copper corrodes aluminium, zinc and galvanised steel. Never let copper drain onto them.
- Fix with copper or stainless steel clips and fasteners; keep copper away from carbon steel.

SPECIFY AS

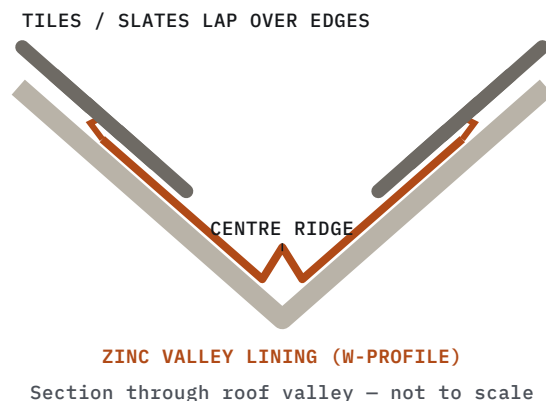
AM-CU · Cu-DHP (CW024A) R240 · 0.7 mm × 670 mm coil · natural · EN 1172 · 2 t

AM-ZN

Titanium-Zinc Coil, Strip & Sheet

Roofing, flashing and rainwater products in natural and pre-weathered zinc.

MATERIAL	Titanium-zinc to EN 988
THICKNESS	0.65 · 0.7 · 0.8 · 1.0 mm
SUPPLY	Coil and slit strip to 1000 mm; sheet
FINISHES	Natural bright · pre-weathered grey · graphite
UNDERSIDE	Protective back coating on request
STANDARDS	EN 988 · EN 14783 · EN 612



ROOFING PRODUCTS

ROOFING PRODUCT	TYPICAL THICKNESS	DETAIL
Roof valley linings	0.7–0.8 mm	W-profile or tray valley; tiles or slates lap over both edges
Flashings	0.7 mm	Apron, step, abutment and chimney flashings, hand-formed
Drip edges & eaves trims	0.7 mm	Folded from slit strip; clip-fixed to allow movement
Ridge & hip cappings	0.7 mm	Ventilated ridges for standing-seam roofs
Standing-seam roofing	0.7 mm	Double-lock or angle seam on a supported, ventilated deck
Gutters & downpipes	0.7–0.8 mm	Half-round and box gutters, round downpipes to EN 612

FABRICATOR NOTES

- Zinc moves about 0.022 mm per metre per °C. Fix long lengths with clips, fixed at one point and sliding elsewhere; never through-fix.
- Form zinc when the material is above about 10 °C; cold zinc can crack at tight folds.
- Keep zinc away from copper run-off, fresh cement and lime mortar, bitumen run-off and acidic timbers such as oak and cedar.

SPECIFY AS

AM-ZN · titanium-zinc EN 988 · natural bright · 0.7 mm × 600 mm slit coil · valleys and flashings · 3 t

07 FIXINGS & SUBSTRUCTURE

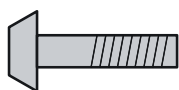
Fasteners, anchors, rainscreen substructure and sealing products used to fix what the shop has fabricated.

FX-FS Fasteners

FX-AN Anchors

FX-RS Substructure

FX-SB Sealing



BOLT



NUT



WASHER



BLIND RIVET



SELF-DRILLING SCREW



WEDGE ANCHOR

FX-FS FASTENERS • FX-AN ANCHORS

PRODUCT	MATERIAL / GRADE	STANDARD	NOTES
Hex bolts & set screws	A2-70 · A4-70 · A4-80	ISO 4014 / 4017 · ISO 3506-1	A4 for exterior and coastal
Nuts & washers	A2 · A4	ISO 4032 · ISO 7089 / 7093	Match the bolt grade
Structural bolts	8.8 HDG	ISO 4014 · ISO 10684	Use with HDG nuts
Blind rivets	Al/Al · Al/SS · SS/SS	Per data sheet	Panel fixing; colour-matched heads
Self-drilling screws	Bi-metal A2/A4 · 410	ISO 15480 / 15481	Bi-metal for exterior aluminium
Wedge / sleeve anchors	Zinc-plated · HDG · A4	ETA to EAD 330232	Cracked-concrete rating
Chemical anchors	A4 or HDG rod + resin	ETA to EAD 330499	High loads, close edges
Threaded rod & studs	A2 · A4 · 4.8 · 8.8	DIN 975 / 976	Cut to length

FABRICATOR NOTES

- Stainless threads gall: use anti-seize and moderate tightening speed on A2 / A4 fasteners.
- Match fastener metal to the parent metal or isolate it — see the galvanic contact guide on page 26.

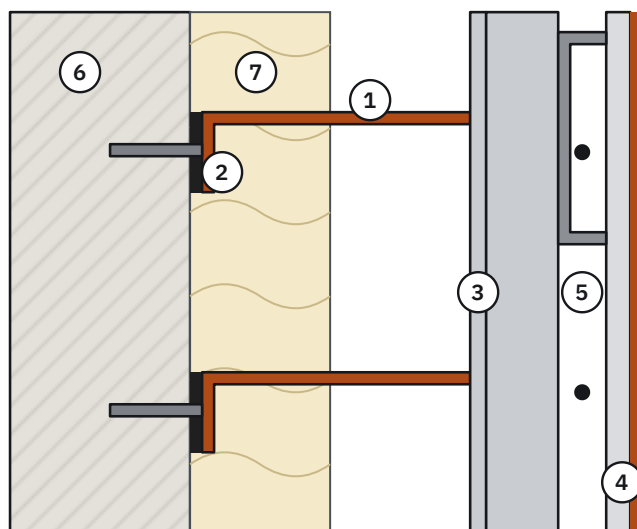
SPECIFY AS

FX-FS · hex bolt ISO 4017 · M12 × 40 · A4-70 · with ISO 4032 nut + 2 × ISO 7089 washers · 2,000 sets

FX-RS / FX-SB

Rainscreen Substructure & Sealing

Aluminium subframe, isolators, fixings and sealing for ventilated façades.



- 1 Wall bracket — fixed point / sliding point
- 2 Thermal isolator pad
- 3 Vertical T / L carrier profile
- 4 Façade panel (cassette / solid / ACP)
- 5 Rivet or screw fixing, sliding at slotted holes
- 6 Anchor into structure
- 7 Insulation with fixings; ventilated cavity

SECTION — TYPICAL VENTILATED RAINSCREEN (NOT TO

FX-RS SUBSTRUCTURE

COMPONENT	MATERIAL	NOTES
Wall brackets	6063 / 6005A-T6 extrusion	Fixed and sliding points; sized to load
Carrier profiles	T · L · top-hat, 6063 / 6005A-T6	Break at floors; leave thermal gaps
Thermal isolators	EPDM · polyamide pads	Reduce thermal bridging at brackets
Cassette hooks & pins	Stainless A2 / A4 · aluminium	For hook-on cassette systems
Stiffeners	Aluminium angle or top-hat	Bonded with structural tape / adhesive

FX-SB SEALING & BONDING

SEALING & BONDING PRODUCT	USE
EPDM gaskets & tapes	Joint and profile sealing, anti-rattle
Structural acrylic foam tape	Stiffener and panel-to-frame bonding
Silicone weather seal	Movement joints — ASTM C920 Class 25 / 50
MS-polymer adhesive	Elastic bonding and sealing
Backer rod	Closed-cell PE; sets sealant depth

$$\Delta L = \alpha \times L \times \Delta T$$

Aluminium expands ≈ 0.024 mm per metre per $^{\circ}\text{C}$: a 3 m profile moves ≈ 4.3 mm over a 60°C range. Fix at one point and slide at the others.

08

FABRICATION
CONSUMABLES

Welding fillers, abrasives and surface protection matched to the metals in this catalogue.

- CN-WD Welding
- CN-AB Abrasives
- CN-PR Protection

CN-WD WELDING CONSUMABLES

PARENT METAL	PROCESS	FILLER	AWS CLASS	NOTES
Al 6xxx profiles	TIG · MIG	ER4043	A5.10	Low crack risk; greys if anodised
Al 5xxx, anodised	TIG · MIG	ER5356	A5.10	Stronger; better anodise match
SS 304 / 304L	TIG · MIG · MMA	ER308L · E308L	A5.9 · A5.4	General stainless
SS 316 / 316L	TIG · MIG · MMA	ER316L · E316L	A5.9 · A5.4	Keeps molybdenum in the weld
SS to carbon steel	TIG · MIG · MMA	ER309L · E309L	A5.9 · A5.4	Dissimilar joints
Carbon steel	MIG	ER70S-6	A5.18	General structural
Carbon steel	MMA	E7018 · E6013	A5.1	7018 low-hydrogen structural

CN-AB ABRASIVES

PRODUCT	SPECIFICATION	USE
Cut-off discs	1.0–1.6 mm · INOX (Fe/S/Cl-free) · 115–230 mm	Thin cutting, stainless and steel
Flap discs	Zirconia / ceramic · P40–P120	Weld blending, edge finishing
Non-woven discs & belts	Coarse → very fine	Satin blending to No.4 / HL
Aluminium discs	Non-loading formulation	Grinding aluminium without clogging

FILMS	Clear, printed and laser-grade PE	GALVANISED	Zinc-rich touch-up paint
STAINLESS CARE	Cleaners and passivation gels	MARKING	Paint and metal-marking pens

SPECIFY AS	CN-WD · ER316L · Ø1.0 mm MIG wire · AWS A5.9 · 15 kg spools · 20 spools
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09 TECHNICAL REFERENCE

Weights, grade equivalents, corrosion guidance and documentation standards for estimating, specifying and receiving metal.

Weights

Equivalents

Corrosion

Documents

DENSITY

MATERIAL	KG/DM ³
Aluminium	2.70
Carbon & weathering steel	7.85
Stainless 304	7.93
Stainless 316	8.00
Stainless 430	7.70
Duplex 2205	7.80
Copper	8.94
Brass CuZn37	8.44
Titanium-zinc	7.20

FLAT PRODUCT

$$m = \rho \times t \times W \times L$$

kg · ρ kg/dm³ · t mm · W, L m

ROUND BAR (STEEL)

$$m = 0.006165 \times d^2$$

kg/m · d mm

ROUND TUBE (STEEL)

$$m = 0.02466 \times t \times (D - t)$$

kg/m · D, t mm

OTHER METALS

$$\times \rho / 7.85$$

Al × 0.344 · SS 304 × 1.010

THEORETICAL SHEET MASS – KG PER SHEET (SS = 304)

T (MM)	AL 1250×2500	AL 1500×3000	SS 1250×2500	SS 1500×3000	STEEL 1250×2500	STEEL 1500×3000
1.0	8.4	12.2	24.8	35.7	24.5	35.3
1.5	12.7	18.2	37.2	53.5	36.8	53.0
2.0	16.9	24.3	49.6	71.4	49.1	70.6
3.0	25.3	36.5	74.3	107.1	73.6	106.0
4.0	33.8	48.6	99.1	142.7	98.1	141.3
5.0	42.2	60.8	123.9	178.4	122.7	176.6
6.0	50.6	72.9	148.7	214.1	147.2	211.9

Theoretical values at nominal thickness. Actual weight varies with thickness tolerance, coating and film; invoiced weight follows the order terms.

REF

Grade Equivalents

Nearest cross-references between standards.

Nearest equivalents are not interchangeable: chemistry, mechanical properties and testing differ. Order to the standard named in the project specification.

STAINLESS STEEL

AIISI	UNS	EN NO.	EN NAME	JIS	GB
304	S30400	1.4301	X5CrNi18-10	SUS304	06Cr19Ni10
304L	S30403	1.4307	X2CrNi18-9	SUS304L	022Cr19Ni10
316	S31600	1.4401	X5CrNiMo17-12-2	SUS316	06Cr17Ni12Mo2
316L	S31603	1.4404	X2CrNiMo17-12-2	SUS316L	022Cr17Ni12Mo2
430	S43000	1.4016	X6Cr17	SUS430	10Cr17
2205	S32205	1.4462	X2CrNiMoN22-5-3	SUS329J3L	022Cr23Ni5Mo3N

CARBON AND COATED STEEL

EN	ASTM	JIS	GB
S235JR	A36	SS400	Q235B
S355JR	A572 Gr.50	SM490A	Q355B
S355J2	A572 Gr.50 + impact	SM490B	Q355D
S355J2H	A500 Gr.C	STKR490	Q355 (GB/T 6728)
S355J2W	A588 Gr.A	SMA490AW	Q355NH
DD11	A1011 CS	SPHC	—
DC01	A1008 CS Type B	SPCC	DC01 (GB/T 5213)
DX51D+Z	A653 CS Type B	SGCC	DX51D+Z (GB/T 2518)

ALUMINIUM

AA	EN AW	EN CHEMICAL	JIS	GB
1050	1050A	Al99.5	A1050	1050A
3003	3003	AlMn1Cu	A3003	3003
3105	3105	AlMn0.5Mg0.5	A3105	3105
5005	5005	AlMg1(B)	A5005	5005
5052	5052	AlMg2.5	A5052	5052
5754	5754	AlMg3	—	5754
5083	5083	AlMg4.5Mn0.7	A5083	5083
6060	6060	AlMgSi	—	6060
6063	6063	AlMg0.7Si	A6063	6063
6061	6061	AlMg1SiCu	A6061	6061
6082	6082	AlSi1MgMn	—	6082

REF

Corrosion & Material Selection

Exposure categories and dissimilar-metal contact.

EXPOSURE GUIDANCE – INDICATIVE; THE PROJECT SPECIFICATION GOVERNS

ISO 9223	CORROSIVITY	TYPICAL EXTERIOR ENVIRONMENT	MATERIAL / FINISH GUIDANCE
C1	Very low	Heated, dry interiors	Any; 430 stainless interior only
C2	Low	Rural, low pollution; dry unheated interiors	304 · anodise class 15 · polyester powder
C3	Medium	Urban, moderate SO ₂ ; low-salinity coast	304 / 316 · anodise class 20 · HDG · PVDF
C4	High	Industrial; coastal, moderate salinity	316L · anodise 20–25 · PVDF · HDG + paint
C5	Very high	Humid industrial; high-salinity coast	316L / 2205 · anodise 25 · PVDF 3-coat / FEVE
CX	Extreme	Offshore, splash zones, tropical extremes	2205 or higher · specialist systems

DISSIMILAR-METAL CONTACT

CONTACT PAIR	RISK	MITIGATION
Aluminium + SS fasteners	Low	Fine when fastener area is small; isolate in wet or coastal zones
Aluminium + copper / brass	High	Isolate fully; keep copper run-off off aluminium
Aluminium + carbon steel	High	Isolate; galvanise or paint the steel
Galvanised steel + copper	High	Isolate; prevent run-off onto zinc
Galvanised steel + stainless	Medium	Isolating washers and pads; keep stainless parts small
Carbon steel + stainless	Medium	Carbon steel corrodes — isolate and coat it

GALVANIC CORROSION – THE RULE

- It needs an electrolyte: risk rises with wetness, salt and pollution, and is negligible in dry interiors.
- A small less-noble part against a large noble one corrodes fastest — never fix stainless panels with aluminium rivets.
- Break the circuit with non-conductive pads, washers and sleeves, and detail joints to shed water.

REF

Documentation & Standards

Certificates, tolerance standards and receiving checks.

EN 10204 INSPECTION DOCUMENTS

TYPE	DOCUMENT	VALIDATED BY	CONTENT
2.1	Declaration of compliance	Manufacturer	Compliance statement, no test results
2.2	Test report	Manufacturer	Compliance plus non-specific test results
3.1	Inspection certificate 3.1	Manufacturer's inspector, independent of production	Specific test results on the delivered product
3.2	Inspection certificate 3.2	Manufacturer's and purchaser's inspectors or third party	As 3.1, jointly validated

STANDARDS INDEX

PRODUCT	DIMENSION & TOLERANCE STANDARDS
Aluminium sheet & plate	EN 485-4 · ASTM B209
Aluminium extrusions	EN 755-9 · EN 12020-2 · ASTM B221
Coil-coated aluminium	EN 1396
Stainless flat products	EN ISO 9445 · ASTM A480
Stainless ornamental tube	ASTM A554
Hot-rolled strip & sheet	EN 10051
Hot-rolled plate	EN 10029
Cold-rolled sheet	EN 10131
Metallic-coated steel	EN 10143 · EN 10346
Hollow sections	EN 10219-2 · EN 10210-2
Angles	EN 10056-2
I and H sections	EN 10034
Channels	EN 10279
Flats · rounds · squares	EN 10058 · EN 10060 · EN 10059

RECEIVING INSPECTION

- Match heat or batch numbers on the material to the mill certificate before release to the shop.
- Measure thickness at several points including edges; check flatness and edge condition.
- Coated product: compare colour and gloss with the approved sample; spot-check coating thickness.
- Galvanised stock: reject wet-storage stain (white rust) and damaged coating.
- Photograph transit damage and record it on the delivery note before signing.

10 ORDERING & SERVICES

What we need to quote accurately, the processing we coordinate, and commercial terms.

- Enquiry
- Specify-as
- Processing
- Terms

ENQUIRY CHECKLIST

01	Product code & form e.g. AL-SP sheet, SS-TP tube	02	Grade · alloy · temper e.g. 5754 H22, 316L, S355J2
03	Dimensions t × W × L · OD × wall · coil ID	04	Tolerances Standard, or tighter as specified
05	Finish & coating Mill, No.4, PVDF colour ref., HDG	06	Surface protection PE film, laser film, interleaving
07	Quantity Pieces, m², kg or t — with split	08	Standards Product and dimension standards
09	Certification EN 10204 2.2 / 3.1 / 3.2, coating	10	Packing Bundles, pallets, crates, max. weight
11	Delivery Site or warehouse, date, offloading	12	Commercial Incoterm, currency, payment terms

ANATOMY OF A SPECIFY-AS LINE

AL-SP CODE	EN AW-5754 H22 GRADE	3.0 × 1500 × 3000 mm SIZE	mill finish FINISH	PE film 1 side PROTECTION
EN 485 STANDARD	EN 10204 3.1 CERTIFICATE	120 sheets QUANTITY		

PROCESSING

Cut-to-length	Slitting	Shearing & sawing	Laser & plasma cutting
CNC punching & perforating	Bending & folding	Powder & PVDF coating	Hot-dip galvanising

Coordinated with processing partners — availability, tolerances and lead time confirmed per enquiry.

INCOTERMS	[EXW / FOB / CFR / CIF / DAP]	VALIDITY	[Quote validity]
PAYMENT	[Payment terms]	SAMPLES	Finish and colour samples on request



MULK TRADING

Metal supply specialists: aluminium, stainless steel, coated steel, sections, mesh, copper, zinc, fixings and consumables.

SALES ENQUIRIES

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Specifications, sizes and ranges in this catalogue are indicative and depend on the producing mill. Binding values are those on the quotation, order acknowledgement and mill certificate.