METAL GRADES AND SPECIFICATIONS

OVERVIEW OF METAL GRADES & SPECIFICATIONS

Chargentum is a leading supplier of certified metals across the United Kingdom, providing materials for construction, manufacturing, and engineering applications. Our inventory includes steel, stainless steel, aluminium, copper, brass, alloy steels, mechanical properties and chemical composition highlights for all stocks supplied by Chargentum.

All metals are UK certified and supplied with full traceability documentation, including Mill Test Certificates and EZ marking where applicable. Downloadable Portable Document Format (PDF) datasheets are available for detailed technical information.

Visit the Metal Weight Calculator for precise weight calculations across structural steel, alloy steel, stainless steel, aluminium, brass, and copper.

METAL GRADES & KEY FEATURES

All metals are presented in high-level tables showing grades, mechanical properties, standards, and key technical features. Each category links to a dedicated subpage with full chemical composition, mechanical and physical data and downloadable datasheets.

METAL STEEL PRODUCTS

STRUCTURAL STEEL

Grades: S355 | S275 | S355J
Standard: European Standard EN 10025

Grade	Yield Strength (Megapascal)	Tensile Strength (Megapascal)	Standard
S235	235	360 - 510	EN 10025
S275	275	410 - 560	EN 10025
S355	355	470 - 630	EN 10025

Key Technical Features

- Excellent weldability and structural integrity
- CE marked and mill certified for traceability
- Suitable for load bearing beams, columns, and general fabrication

BUY STRUCTURAL STEEL

VIEW FULL STRUCTURAL STEEL SPECIFICATIONS

ENGINEERING STEEL

Grades: EN8 | EN19 | EN24
Standard: European Standard EN 10083

Grade	Tensile Strength	Hardness (Brinell)	Standard
EN8	500-700	150-200	EN 10083
EN19	850-1000	248-302	EN 10083
EN24	850-1000	248-302	EN 10083

Key Technical Features

- Heat treatable for enhanced strength and toughness
- Excellent machinability for shafts, gears, and precision components

BUY ENGINEERING STEEL

VIEW FULL ENGINEERING STEEL SPECIFICATIONS

ALLOY STEEL

Grades: 4140 | 4340
Standard: European Standard EN 10083

Grade	Yield Strength (Megapascal)	Tensile Strength (Megapascal)	Standard
4140	655	930	EN 10083
4340	740	980	EN 10083

Key Technical Features

- Chromium and molybdenum alloyed for high toughness
- Excellent fatigue resistance for mechanical components
- Heat treatable to achieve a wide range of strength levels

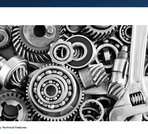
BUY ALLOY STEEL

VIEW FULL ALLOY STEEL SPECIFICATIONS

TOOL STEEL

Grades: H13 | D2 | O1 | H13

Grade	Hardness (Rockwell Hardness Test Scale)	Standard
H13	43-48	EN ISO 4957
D2	58-62	EN ISO 4957
O1	57-62	EN ISO 4957
H13	48-52	EN ISO 4957



Key Technical Features

- High wear resistance and hardness retention
- Heat treatment responsive for cutting, forming, and stamping tools
- Maintains toughness under cyclic loading

BUY TOOL STEEL

VIEW FULL TOOL STEEL SPECIFICATIONS

STAINLESS STEEL

Grades: 304 | 316
Standard: European Standard EN 10088

Grade	Yield Strength (Megapascal)	Tensile Strength (Megapascal)	Standard
304	215	505	EN 10088
316	205	515	EN 10088

Key Technical Features

- Corrosion resistant for marine, chemical, and food environments
- High chromium and nickel content
- Hygienic properties for pharmaceutical and medical applications

BUY STAINLESS STEEL

VIEW FULL STAINLESS STEEL SPECIFICATIONS

GREEN STEEL

Grades: S275 | S355
Standard: European Standard EN 10025

Feature	Detail
Reduced Carbon Emissions	Yes
Recycled Content	High
EN Compliance	EN 10025

Key Technical Features

- Sustainable, low carbon steel
- Equivalent structural performance to standard grades
- UK compliant sourcing and certification

BUY GREEN STEEL

VIEW FULL GREEN STEEL SPECIFICATIONS

COPPER TUBING

Feature	Detail
Reduced Carbon Emissions	Yes
Recycled Content	High
EN Compliance	EN 10025

Key Technical Features

- Sustainable, low carbon steel
- Equivalent structural performance to standard grades
- UK compliant sourcing and certification

BUY COPPER STEEL

VIEW FULL COPPER STEEL SPECIFICATIONS

STEEL FORMS

PERFORATED SHEET

Parameter	Range
Thickness	0.5 millimetres – 10 millimetres
Hole Patterns	Round, Square, Slotted
Open Area	Customisable

Key Technical Features

- Structural and decorative applications
- Available in multiple metals
- Manufactured to strict tolerances

BUY PERFORATED SHEETS

VIEW FULL PERFORATED SHEET SPECIFICATIONS

NON-FERROUS METALS

ALUMINIUM

Grades: 6061 T6
Standard: European Standard EN 755

Property	Value
Yield Strength (Megapascal)	275
Tensile Strength (Megapascal)	310
Density (Kilograms per cubic metre)	2700

Key Technical Features

- Lightweight and corrosion resistant
- Heat treatable for structural applications

BUY ALUMINIUM

VIEW FULL ALUMINIUM SPECIFICATIONS

COPPER

Grades: C110
Standard: European Standard EN 1652

Property	Value
Copper Content	99.9%
Electrical Conductivity	100% International Annealed Copper Standard
Tensile Strength (Megapascal)	220

Key Technical Features

- Excellent electrical and thermal conductivity
- Highly ductile and formable

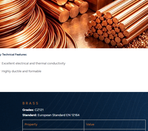
BUY COPPER

VIEW FULL COPPER SPECIFICATIONS

BRASS

Grades: CZ121
Standard: European Standard EN 12164

Property	Value
Tensile Strength (Megapascal)	350-500
Machinability	Excellent



Key Technical Features

- Free machining and corrosion resistant
- Suitable for valves, fittings, and instrumentation

BUY BRASS

VIEW FULL BRASS SPECIFICATIONS

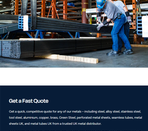
MATERIAL COMPARISON OVERVIEW

Material Category	Typical Strength	Corrosion Resistance	Weight	Machinability	Typical Applications	Notes / Key Features
Structural Steel	High	Moderate	Heavy	Moderate	Beams, columns, construction	CE marked, available
Engineering Steel	High	Moderate	Heavy	Good	Shafts, gears	Heat treatable, precise
Alloy Steel	Very High	Moderate	Heavy	Moderate	Mechanical parts	Chromium/molybdenum alloyed
Tool Steel	Very High	Moderate	Heavy	Moderate	Tools & dies	Wear resistant
Stainless Steel	Moderate	Excellent	Heavy	Moderate	Food, chemical, marine	Corrosion resistant, hygienic
Green Steel	High	Moderate	Heavy	Moderate	Sustainable construction	Low carbon, recycled content
Stainless Tubes	High	Moderate	Heavy	Moderate	Structural, hydraulic	Uniform wall thickness
Perforated Sheet	Moderate	Good	Medium	Good	Decorative & structural	Multiple patterns & metals
Aluminium	Moderate	Good	Lightweight	Good	Frames, automotive	Lightweight, corrosion resistant
Copper	Moderate	Excellent	Heavy	Moderate	Electrical, plumbing	High conductivity
Brass	Moderate	Good	Medium	Excellent	Valves, fittings	Free machining, corrosion resistant

STANDARDS / CERTIFICATION & COMPLIANCE

Category	Relevant Standards	Notes / Key Features
Structural Steel	EN 10025, British Standard EN 1993	CE Marked, Mill Test Certificate	Structural load-bearing, weldable
Engineering Steel	EN 10083, British Standard EN 842-881	Mill Test Certificate	Heat treatable, mechanical components
Alloy Steel	EN 10083, ASTM A29	Mill Test Certificate	High fatigue & toughness
Tool Steel	EN ISO 4957, ASTM A681	Mill Test Certificate	Wear resistant, heat treatment responsive
Stainless Steel	EN 10088, British Standard EN ISO 3506	Mill Test Certificate, CE Marked	Corrosion resistant, hygienic
Green Steel	EN 10025, ISO 14001	Mill Test Certificate, Sustainability Certification	Low carbon, recycled content
Stainless Tubes	EN 10216, DIN 10297, ASTM A269	Mill Test Certificate, CE Marked	Structural, mechanical, hydraulic
Perforated Sheet	EN 10143, EN 10142	Mill Test Certificate	Structural & decorative, multiple metals
Aluminium	EN 755, British Standard EN 485	Mill Test Certificate	Lightweight, corrosion resistant
Copper	EN 1652, British Standard EN 1172	Mill Test Certificate	High electrical & thermal conductivity
Brass	EN 12164, EN 12165	Mill Test Certificate	Free machining, corrosion resistant

REQUEST TECHNICAL SUPPORT/ ADVICE



TECHNICAL SUPPORT

Chargentum's UK technical team provides guidance on:

- Selecting the right grade for structural loads
- Selecting the right grade for structural loads
- Advising on corrosion resistance and durability
- Sustainability consultation for Green Steel

TECHNICAL DISCLAIMER

Technical data is provided for general reference purposes only. Mechanical properties represent typical values in accordance with applicable standards. Actual values may vary depending on mill production and selection thickness. Contact Chargentum for project-specific certification requirements.

Get a Fast Quote

Get a quick, competitive quote for any of our metals - including steel, alloy steel, stainless steel, tool steel, aluminium, copper, brass, Green Steel, perforated metal sheets, seamless tubes, metal sheets UK, and metal tubes UK from a trusted UK metal distributor.

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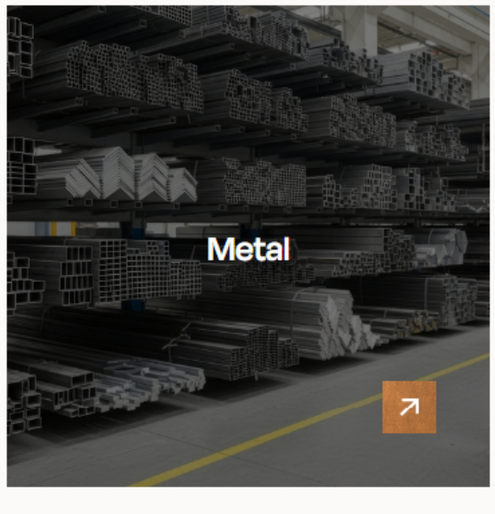
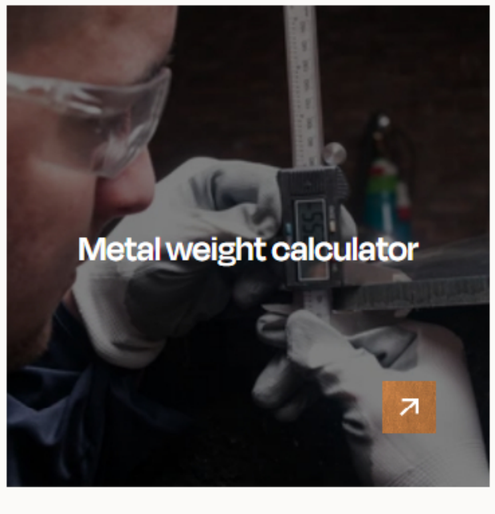
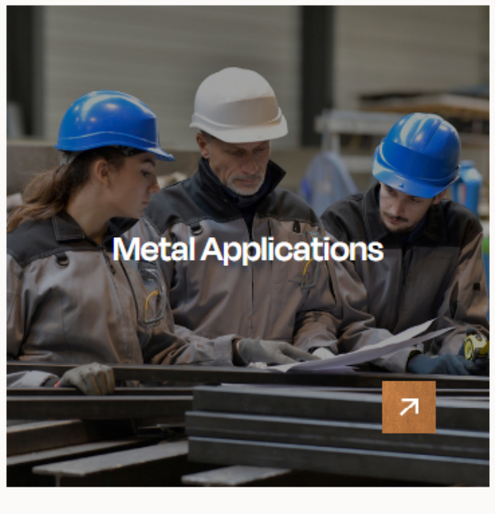
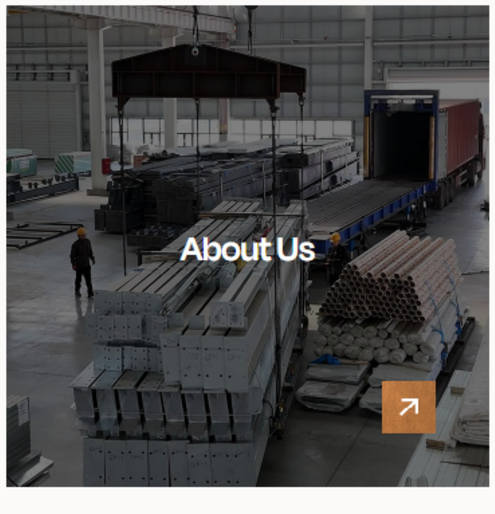
Download Our Catalogue

EXPLORE CHARGENTUM METALS, VIEW GRADES & SPECIFICATIONS, DISCOVER METAL APPLICATIONS, AND USE OUR METAL WEIGHT CALCULATOR









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YOUR TRUSTED METAL PARTNER

Sourced only from certified manufacturers

Compliant with all British and industry standards

Dedicated to quality and reliable service

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