

PRODUCT CATALOGUE · ÜRÜN KATALOĞU

Iron & Steel Supply Solutions

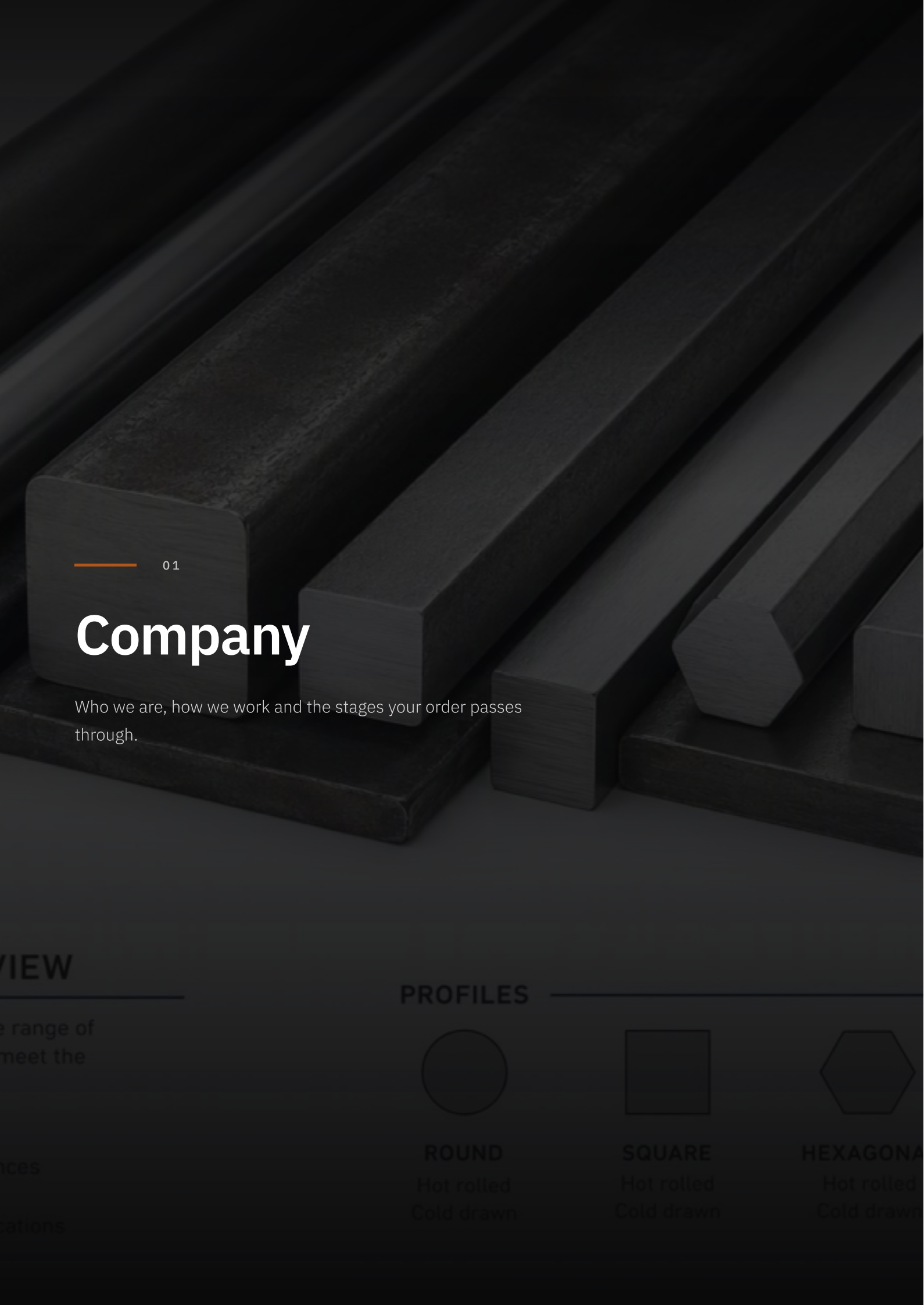
Alloy steel bars · Flanges and pipe connection elements · Casting materials.

Global supply to **ASME, API and DIN** standards, backed by 29 years of experience.

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01

Company

Who we are, how we work and the stages your order passes through.

VIEW

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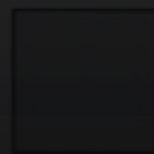
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PROFILES



ROUND

Hot rolled
Cold drawn



SQUARE

Hot rolled
Cold drawn



HEXAGONAL

Hot rolled
Cold drawn

01 — COMPANY

Your Reliable Steel Supply Partner

Aktif Çelik supplies and exports alloy steel bars, flanges, pipe connection elements and casting materials. We source material that meets international standards — in the right grade and on time — for the energy, petrochemical, automotive, machinery and heavy industry sectors.

Our strength lies in a broad manufacturer network, materials engineering knowledge and long-standing export experience. Every shipment is managed against the order specification and the requested inspection document (EN 10204 2.2 / 3.1).

29+

Years of Experience

500+

Product Types

22+

Export Countries

HOW WE WORK

- Grade and quality selection to your specification
- Sample and small-batch supply
- Delivery with inspection certificate (EN 10204 3.1)
- Export documentation and logistics management
- International standard equivalence support
- Technical support: grade equivalence, heat treatment, tolerances

02 – HOW WE WORK

From Enquiry to Delivery

Every order follows the same path: clarify the specification, select the right grade and mill, inspect, ship. The aim is to remove surprises.

01

Enquiry and specification

Material, grade and standard are confirmed; an equivalent grade is proposed where useful.

03

Quotation

Written offer with price, lead time, Incoterm and payment terms.

05

Inspection and certification

EN 10204 2.2 / 3.1 inspection document; third-party inspection on request.

02

Sourcing

Supply from the mill network suited to the product group; capacity and lead time confirmed.

04

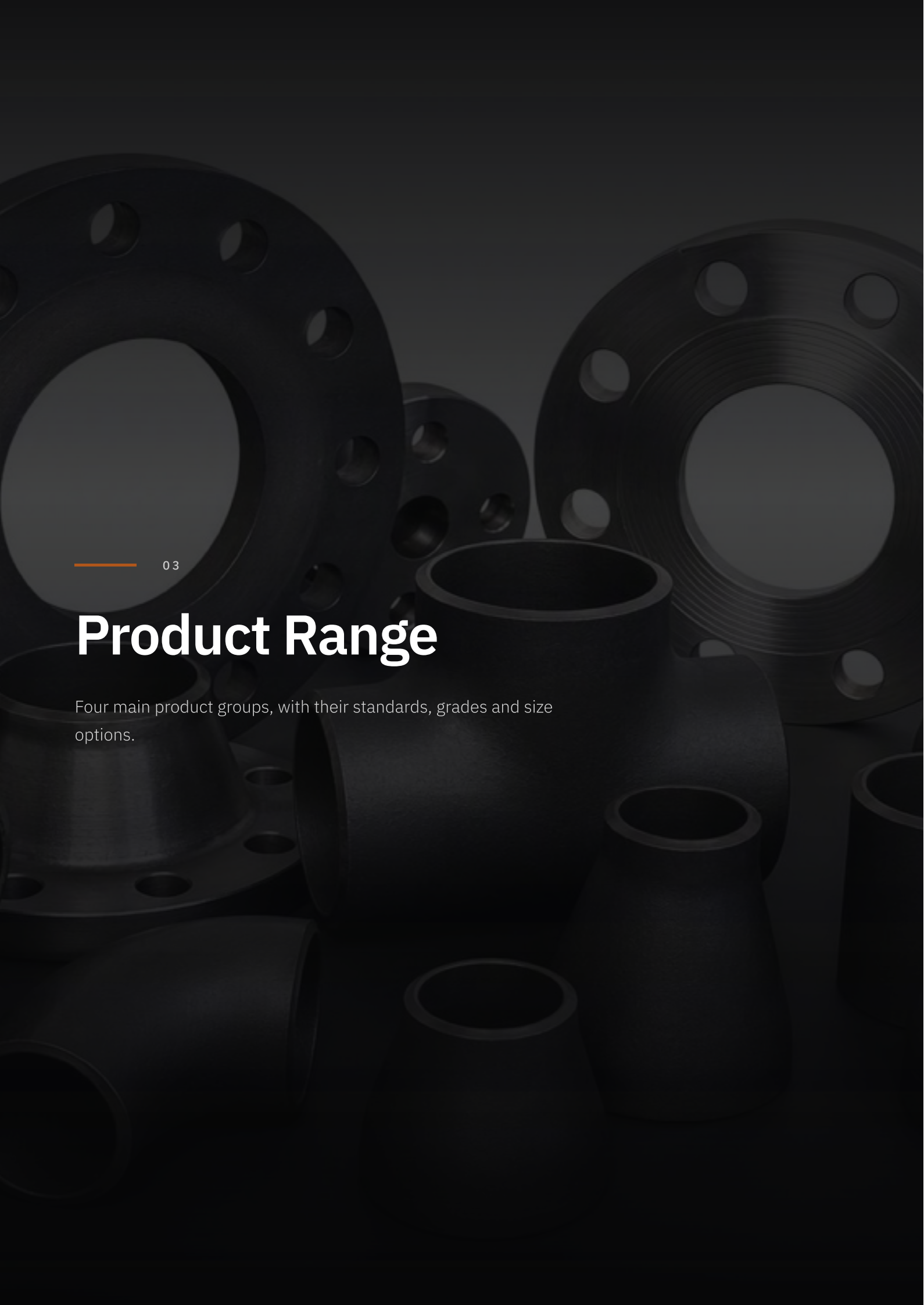
Production follow-up

The order enters the mill's programme; interim status is reported.

06

Shipment

Export documentation, packing and logistics organised.



03

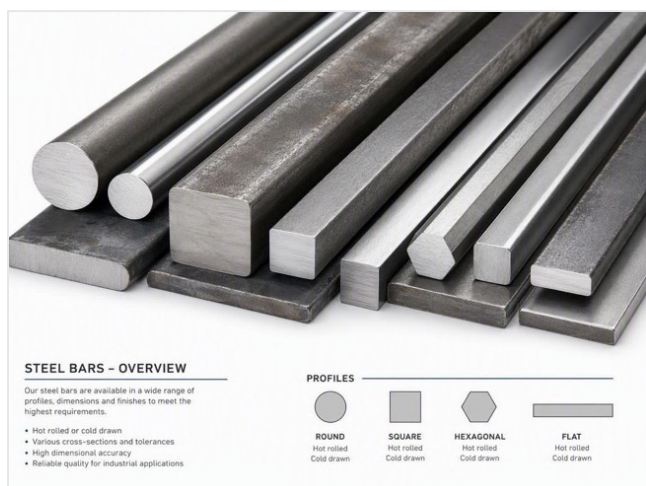
Product Range

Four main product groups, with their standards, grades and size options.

03 – PRODUCT RANGE

Product Groups

Our range is organised in four main groups. Each group is supplied from stock or to order, with a choice of standards and grades.



Steel Bars

Hot rolled, cold drawn, forged and specialty steel bars

6 products



Pipe Fittings

Flanges, fittings, tees, reducers, caps and connection elements

8 products



Cold Drawn Products

Round, square and flat profiles

3 products



Casting & Metallurgy

Ferro alloys, pig iron, casting materials and metallurgy products

7 products

03 – STEEL BARS

Steel Bars

Hot rolled, cold drawn, forged and specialty steel bars



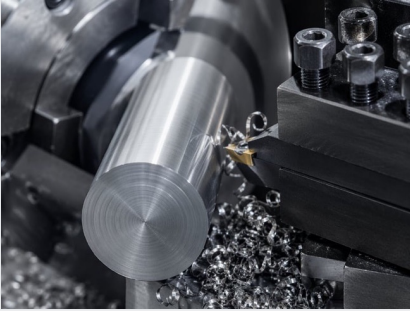
Hot Rolled Bars



Bright Steel Bars



Forged Bars & Pipes



Free-Cutting Steels



Carbon Steel



Case Hardening Steels

04 – PIPE FITTINGS

Pipe Fittings

Flanges, fittings, tees, reducers, caps and connection elements



Flange

ANSI B16.5 / B16.47



Fittings

ASTM A234 / EN 10253



Tee

ASME B16.9



Reducer

ASME B16.9



Caps / Head

ASME B16.9



Connection Fitting

ASME B16.11



Ring



Anchor Flange

05 – COLD DRAWN PRODUCTS

Cold Drawn Products

Round, square and flat profiles



Round Bar



Square Bar



Flat Bar

06 – CASTING & METALLURGY

Casting & Metallurgy

Ferro alloys, pig iron, casting materials and metallurgy products



Ferro Alloys



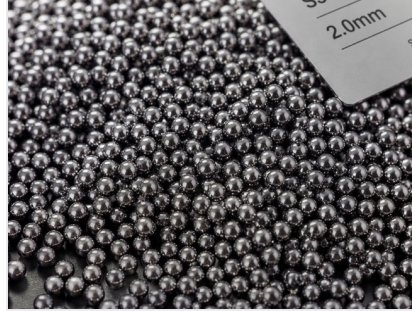
Pig Iron



Iron Casting Materials



Non-Ferrous Casting



Steel Shot



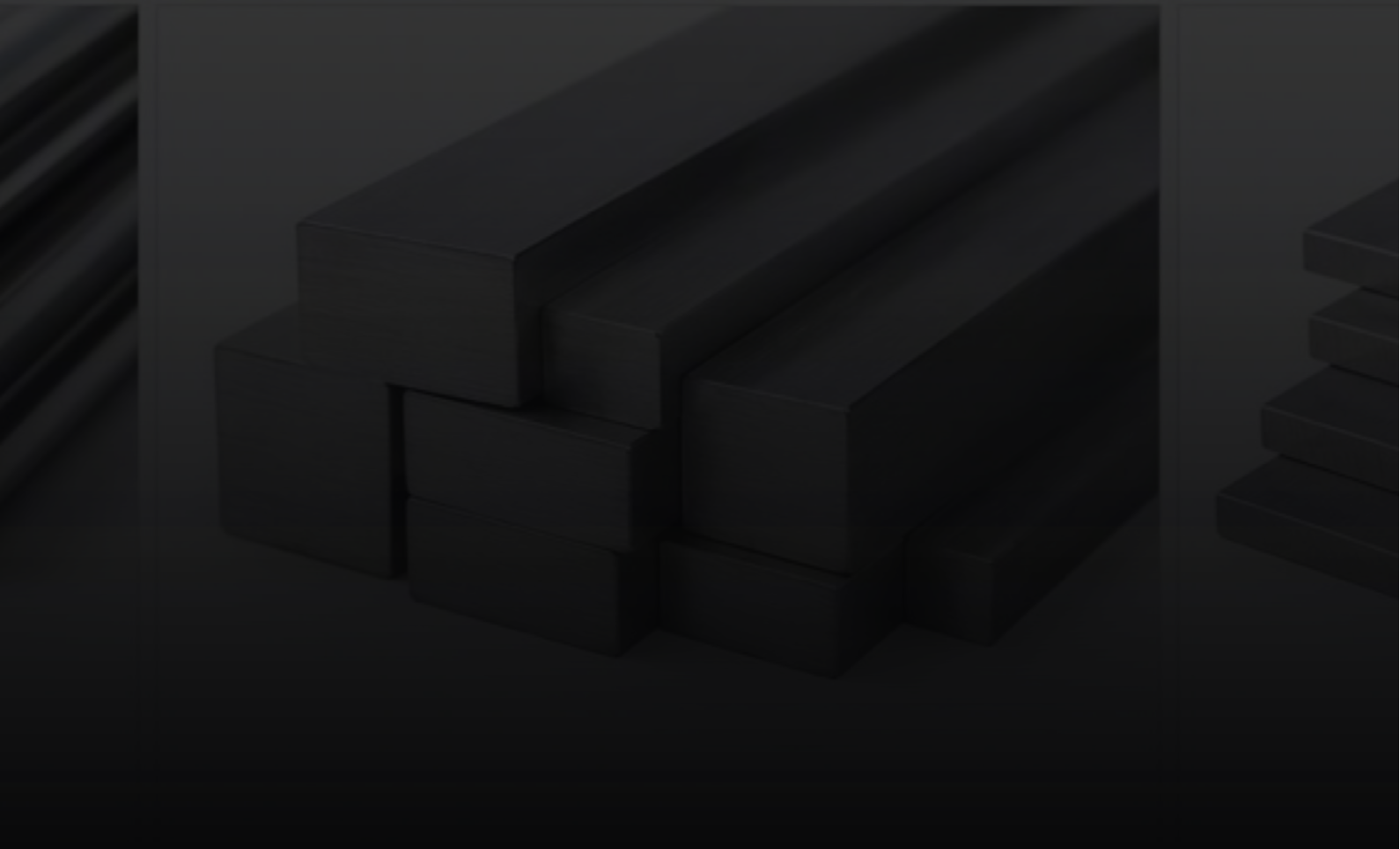
Silica Sand



Forged Mill Ball

Sectors and Supply

The 20 sectors we serve and the production stages our material passes through.



04 – SECTORS

Sectors We Serve

We supply material to 20 sectors. Each has its own standards, grade preferences and delivery expectations; product selection follows those requirements.

Energy Sector

Natural gas pipelines and compressor stations · Oil refineries and petrochemical plants · Wind turbine tower and nacelle structures · Nuclear and thermal power plant piping systems

S355J2

S355NL

34CrNiMo6

42CrMo4

ASTM A105

ASME B16.5

ASME B16.47

Petrochemical Sector

Chemical reactor piping circuits · Acid and alkali storage tanks · Distillation column connection elements · High-temperature heat exchangers

316L

304L

321

347

F51 (Duplex 2205)

ASME B16.5

ASME B31.3

Automotive Sector

Crankshafts and camshafts · Transmission gears and shafts · Differential ring gears · Valve springs and push rods

42CrMo4

34CrNiMo6

16MnCr5

20MnCr5

C45

EN 10083-3

EN 10084

Defense Industry

Armored vehicle hulls and turrets · Tank track connection pins and bushings · Ballistic protection plates · Gun barrel and recoil mechanisms

34CrNiMo6

30CrNiMo8

300M

AISI 4340

AISI 4330V

MIL-STD-1185

DEF STAN 95-1

Maritime Sector

Ship propeller shafts · Rudder bearings and rudder stocks · Deck crane and lifting mechanisms · Sea chest valves and seawater circuits

S355J2+N

S460NL

CK45

42CrMo4

34CrNiMo6

Lloyd's Register

DNV GL

04 – SECTORS

Sectors We Serve

Machinery Manufacturing

CNC turning and milling parts · Hydraulic and pneumatic cylinder bodies · Transmission and drive shafts · Gearbox components

C45

42CrMo4

34CrNiMo6

11SMn30

11SMnPb30

EN 10083-1/2/3

EN 10277

Agricultural Machinery

Tractor PTO (power take-off) shafts · Plow blades and points · Combine harvester threshing drums · Hydraulic cylinder piston rods

C45

42CrMo4

16MnCr5

20MnCr5

S355J2

EN 10083-3

EN 10277

Hydraulic & Pneumatic Systems

Hydraulic cylinder piston rods · Cylinder bodies (honed tubes) · Pneumatic cylinder shafts · Hydraulic power unit pistons

CK45 (h7/h8)

42CrMo4 (h7)

20MnV6

St52 (E355)

C35 Chrome Plated

EN 10278 (h7-h11)

EN 10305-1 (Seamless)

Foundry Industry

Automotive casting parts (engine blocks, exhaust manifolds) · Valve bodies and covers · Pump bodies and impeller parts · Machine beds and machine tool bodies

GG25 (EN-GJL-250)

GGG40 (EN-GJS-400)

GGG50 (EN-GJS-500)

GS52 (GP240GH)

Sfero Döküm (EN-GJS-600)

EN 1561 (Gri Döküm)

EN 1563 (Sfero Döküm)

Cement & Mining

Cement mill grinding balls (rod and ball mills) · Mining crusher jaws and impact plates · Wear plates and liner elements · Belt conveyor drums

60Mn / 65Mn

B2 (AISI 52100)

B3 (75CrMo)

Mn13 (Hadfield)

Cr26 Beyaz Döküm

ISO 17422 (Aşınma Testi)

ASTM A532 (Cr Döküm)

04 – SECTORS

Sectors We Serve

Surface Treatment

Shot blasting (steel structures, ships, bridge surfaces) · Sandblasting (casting cleaning, rust removal) · Shot peening (automotive springs, gear strengthening) · Surface preparation before painting and coating

S-170 / S-230 / S-280 / S-330

S-390 / S-460 / S-550 / S-660

G-25 / G-40 / G-50 (Grit)

SAE J444 (Shot)

SAE J445 (Grit)

SAE J444

SAE J445

Steelmaking Industry

Scrap melting and alloying in EAF steelworks · Liquid steel refining in BOF plants · Deoxidation and desulfurization in ladle metallurgy · Ferrochrome usage in stainless steel production

FeCr HC/LC

FeMn HC/MC/LC

FeSi 75%

FeSiMn

Çelik Piki

ASTM A29

EN 10025

Glass Industry

Flat glass production (float glass) · Bottle and container glass manufacturing · Fiberglass production · Solar panel glass (solar glass)

Silis Kumu %99+ SiO₂

Cam Kumu AFS 40-70

ASTM C146

EN 572

Refractory Industry

Refractory brick production (silica brick) · Furnace lining castable refractories · Steelworks and foundry furnace insulation · Continuous casting tundish linings

Silis Kumu Refrakter Grade

SiC/Grafit Potalar

ASTM C153

EN ISO 1927

Chemical Industry

Sodium silicate (water glass) production · Chemical process filtration systems · Silicon polymer industry · Corrosion-resistant cast equipment production

Silis Kumu Kimya Grade

Filtrasyon Kumu

ISO 9001

EN 12904

04 – SECTORS

Sectors We Serve

Construction & Building Materials

Industrial epoxy and polyurethane floor coatings · Ready-mix concrete and mortar aggregate/filler · Steel bridge and structural element blasting · Filler material in asphalt mixes

Silis Kumu İnşaat Grade

Çelik Bilya S230-S390

EN 13139

ISO 8501-1

Water Treatment & Filtration

Drinking water treatment plant sand filters · Industrial water treatment systems · Wastewater sand filter beds · Swimming pool sand filters

Filtre Kumu 0.4-0.8mm

Filtre Kumu 0.8-1.2mm

Filtre Çakılı 2-4mm

TS EN 12904

DIN 19643

Sports Facilities & Landscaping

Synthetic turf football field infill · Golf bunker sand · Tennis court surface infill · Playground fill sand

Silis Kumu 0.3-0.5mm (İnce)

Silis Kumu 0.5-1.0mm (Profesyonel)

FIFA Quality Programme

World Rugby Regulation 22

Welding & Cutting

Welding electrode coating components · Flux-cored wire core filling · Weld pool deoxidation · Weld seam mechanical strength improvement

FeSi 75%

FeMn HC/MC

FeCr HC/LC

FeTi

AWS A5.1

AWS A5.5

Paint & Coating

Shipbuilding — shipyard blasting · Steel pipeline pre-coating preparation · Wind turbine tower surface treatment · Tank and storage unit blasting

Çelik Bilya S230-S460

Çelik Grit G25-G80

ISO 8501-1

SSPC-SP 10

04 – SECTORS

Product — Sector Matrix

Shows which product group is predominantly used in which sectors. Grade selection may vary with the specific application.

PRODUCT GROUP	KEY SECTORS
Steel Bars	Energy Sector · Automotive Sector · Defense Industry · Maritime Sector · Machinery Manufacturing · Agricultural Machinery · Hydraulic & Pneumatic Systems
Pipe Fittings	Energy Sector · Petrochemical Sector · Maritime Sector
Cold Drawn Products	Hydraulic & Pneumatic Systems
Casting & Metallurgy	Foundry Industry · Cement & Mining · Surface Treatment · Steelmaking Industry · Glass Industry · Refractory Industry · Chemical Industry · Construction & Building Materials

05 – SUPPLY NETWORK

Production Stages Across Our Supply Network

Aktif Çelik is a supply and export company; production takes place at partner mills. The stages below show the processes our material passes through and where we provide technical follow-up.

01

Steelmaking (EAF)

Melting scrap steel at 1600°C in Electric Arc Furnace (EAF), chemical analysis and refining in ladle furnace.

EN 10025 · EN 10083 · EN 10084

02

Continuous Casting

Solidifying liquid steel into billet and bloom form by transferring through tundish into copper mold. Spray water cooling and electromagnetic stirring.

EN 10025 · EN 10028 · ASTM A29

03

Hot Rolling

Heating billets to 1050–1250°C and passing through roughing and finishing mills. Production in bar, profile and flat form. Per EN 10060 standard.

EN 10060 · EN 10058 · EN 10059

04

Forging

Shaping steel at 850–1200°C through open and closed die forging. Dense internal structure and superior mechanical properties with presses and hammers.

EN 10250 · EN 10222 · EN 10228-3

05

Cold Drawing

Drawing hot rolled bars through dies at room temperature to achieve bright surface products with h9/h10/h11 tolerance. Per EN 10277/10278 standard.

EN 10277 · EN 10278 · EN 10108

06

Peeling

Removing surface defects of steel bars on centerless peeling machines. Surface quality of $Ra \leq 0.8 \mu m$ and precision shaft production in h7–h11 tolerance classes.

EN 10278 · EN 10277 · DIN 175

07

Heat Treatment

Annealing (700–900°C), quenching & tempering (850°C + tempering), normalizing and case hardening. Optimization of mechanical properties.

EN 10083 · EN 10084 · EN ISO 18265

08

CNC Machining

Turning, milling and drilling on multi-axis CNC machines with $\pm 0.01 mm$ tolerance. Delivery with CMM measurement and PPAP documentation.

ISO 2768 · ISO 1302 · ASME Y14.5

05 – SUPPLY NETWORK

Production Stages Across Our Supply Network

These stages are carried out at partner production facilities. Aktif Çelik is responsible for grade selection, conformity to specification, inspection documentation and shipment follow-up.

09

Quality Control

Spectrometer analysis, hardness measurement, tensile testing, ultrasonic testing (EN 10308) and dimensional control. 100% inspection with EN 10204 3.1 certificate.

EN 10204 3.1/3.2 · EN 10308 · EN ISO 6506

10

Packaging & Logistics

Jute wrapping, steel strapping packaging. Delivery by container, truck and vessel. Project-based labeling and traceability.

ISO 9001 · ISPM 15 · IMO

11

Ferroalloy Production (SAF)

Production of ferrochrome, ferromanganese and ferrosilicon in Submerged Arc Furnace (SAF). Alloy extraction from ore via carbothermic reduction.

ISO 4365 · ISO 5448 · ISO 5446

12

Pig Iron Production

Pig iron production in blast furnace and cupola. Steel pig iron, hematite pig iron and nodular pig iron — each produced to different chemical composition targets.

ASTM A43 · EN 1561 · EN 1563

13

Casting Process (Sand/Die)

Sand molding, melting, FeSiMg nodularization, inoculation and casting. Precision mold production with AFS 30–70 silica sand and ductile/grey cast iron production.

EN 1563 · EN 1561 · ASTM A536

14

Shot Blasting

Surface preparation with steel shot. Surface cleaning and profiling to ISO 8501-1 Sa 2.5 cleanliness with S110–S780 shot sizes for coating preparation.

ISO 8501-1 · ISO 8503 · SSPC-SP 10 / NACE No.2

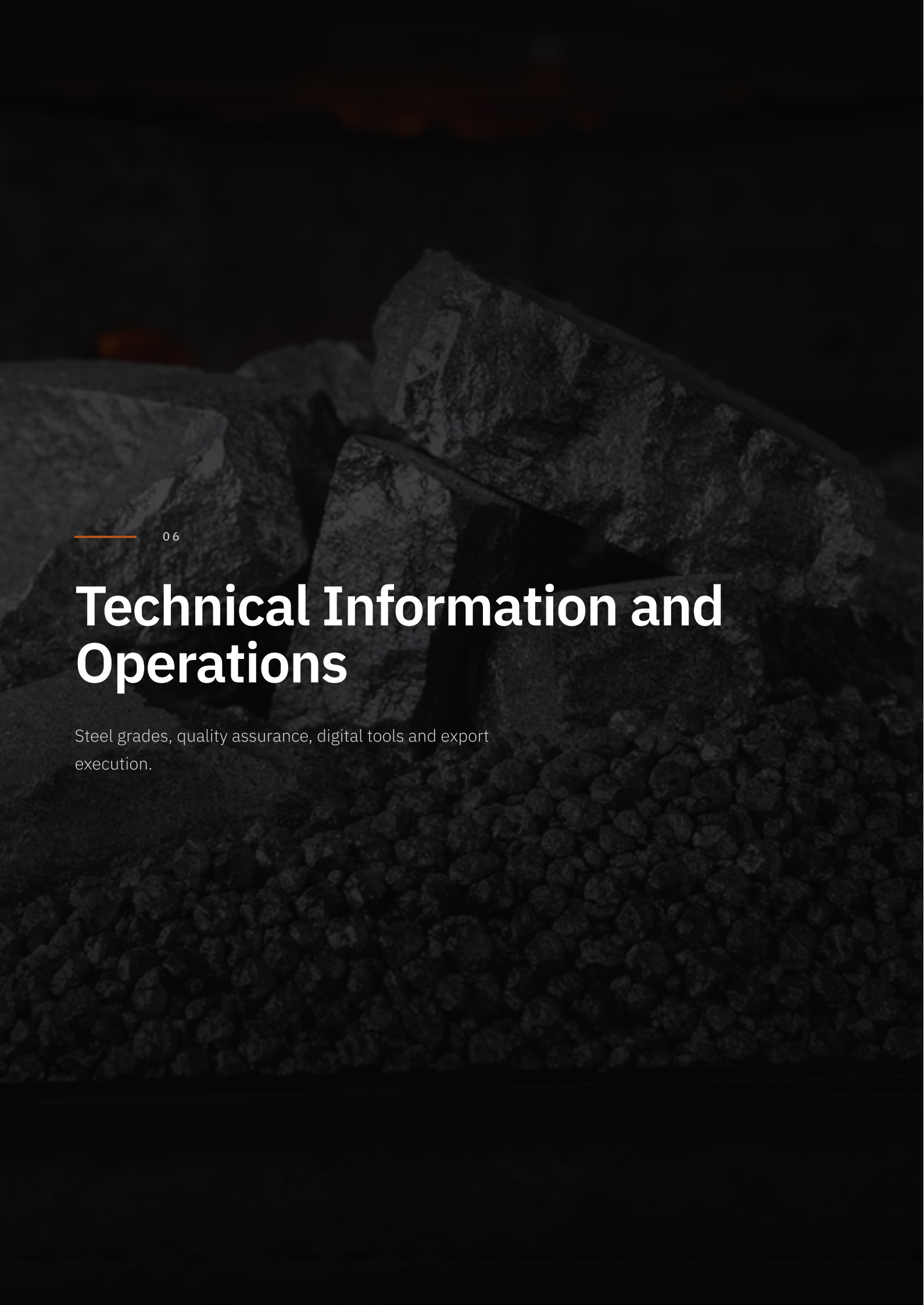
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Foundry Quality Control (NDT)

Comprehensive quality assessment of cast parts via spectrometer, microstructure, mechanical testing and non-destructive testing (UT, RT, MT, PT).

ASTM E2567-16 · ASTM A247 · ASTM E8/E8M

These stages are carried out at partner production facilities. Aktif Çelik is responsible for grade selection, conformity to specification, inspection documentation and shipment follow-up.



06

Technical Information and Operations

Steel grades, quality assurance, digital tools and export execution.

06 – STEEL GRADES

Steel Grade Reference

The 14 most requested steel grades and their international equivalents. A detailed datasheet (chemical composition, mechanical properties, equivalents) is available for each grade.

GRADE	W.-NR. AISI/SAE	STANDARD	GROUP
42CrMo4	1.7225 4140	EN 10083-3	Chrome-Molybdenum Q&T Steel
C45	1.0503 1045	EN 10083-2	Medium-Carbon Engineering Steel
S235JR	1.0038 ≈ A36	EN 10025-2	Structural Carbon Steel
S355J2	1.0577 ≈ A572 Gr.50	EN 10025-2	High-Strength Low-Alloy Structural Steel (HSLA)
16MnCr5	1.7131 5115	EN 10084	Case-Hardening (Carburizing) Steel
34CrNiMo6	1.6582 ≈ 4340	EN 10083-3	Nickel-Chromium-Molybdenum Q&T Steel
25CrMo4	1.7218 4130	EN 10083-3	Chromium-Molybdenum (Chromoly) Q&T Steel
100Cr6	1.3505 52100	EN ISO 683-17	High-Carbon Chromium Bearing Steel
C15	1.0401 ≈ 1015 / 1018	EN 10084 / EN 10277	Unalloyed Low-Carbon Steel
20NiCrMo2-2	1.6523 8620	EN 10084	Ni-Cr-Mo Case-Hardening Steel
11SMn30	1.0715 1213	EN 10277-3	Free-Cutting (Free-Machining) Steel
51CrV4	1.8159 6150	EN 10083-3 / EN 10089	Chromium-Vanadium Spring / Q&T Steel
39NiCrMo3	1.6510 ≈ 9840	EN 10083-3	Nickel-Chromium-Molybdenum Q&T Steel
20MnCr5	1.7147 5120	EN 10084	Chromium-Manganese Case-Hardening Steel

06 – STEEL GRADES

Chemical Composition Summary

Principal alloying elements of the key grades (% by weight). See the relevant datasheet for full analysis and mechanical values.

GRADE	C	SI	MN	CR	MO	NI	V
42CrMo4	0.38–0.45	≤ 0.40	0.60–0.90	0.90–1.20	0.15–0.30	–	–
C45	0.42–0.50	≤ 0.40	0.50–0.80	≤ 0.40	≤ 0.10	≤ 0.40	–
S235JR	≤ 0.17	–	≤ 1.40	–	–	–	–
S355J2	≤ 0.20	≤ 0.55	≤ 1.60	–	–	–	–
16MnCr5	0.14–0.19	≤ 0.40	1.00–1.30	0.80–1.10	–	–	–
34CrNiMo6	0.30–0.38	≤ 0.40	0.50–0.80	1.30–1.70	0.15–0.30	1.30–1.70	–
25CrMo4	0.22–0.29	≤ 0.40	0.60–0.90	0.90–1.20	0.15–0.30	–	–
100Cr6	0.93–1.05	0.15–0.35	0.25–0.45	1.35–1.60	–	–	–
C15	0.12–0.18	≤ 0.40	0.30–0.60	–	–	–	–
20NiCrMo2-2	0.17–0.23	≤ 0.40	0.65–0.95	0.35–0.65	0.15–0.25	0.40–0.70	–
11SMn30	≤ 0.14	≤ 0.05	0.90–1.30	–	–	–	–
51CrV4	0.47–0.55	≤ 0.40	0.70–1.10	0.90–1.20	–	–	0.10–0.25
39NiCrMo3	0.35–0.43	≤ 0.40	0.50–0.80	0.60–1.00	0.15–0.25	0.70–1.00	–
20MnCr5	0.17–0.22	≤ 0.40	1.10–1.40	1.00–1.30	–	–	–

07 – QUALITY AND STANDARDS

Quality Assurance and Certification

Material conformity is proven by documentation. We agree which inspection document is required at order stage and manage the shipment accordingly.

INSPECTION DOCUMENTS

- EN 10204 2.1 – Declaration of compliance
- EN 10204 2.2 – Test report (non-specific inspection)
- EN 10204 3.1 – Inspection certificate (mill inspection department)
- EN 10204 3.2 – Third-party / purchaser representative inspection

TESTS ON REQUEST

- Chemical analysis (spectrometer)
- Tensile, yield and elongation test
- Hardness (HB / HRC / HV)
- Charpy impact (including sub-zero)
- Ultrasonic testing (UT)
- Dimensional and surface inspection

STANDARD FAMILIES WE WORK TO

ABS (American Bureau of Shipping)	AD 2000-Merkblatt	AMS 6414 (4340)	AMS 6419 (300M)			
AMS 6532 (Maraging)	API 590	API 5L	API 6A	ASME B16.47	ASME B16.5	ASME B31.3
ASTM A182	ASTM A29	ASTM A48	ASTM A532 (Çı Döküm)	ASTM A536	ASTM C146	
ASTM C153	ASTM C33	ASTM E18 (Sertlik)	AWS A5.1	AWS A5.5	Bureau Veritas	
DEF STAN 95-1	DIN 1652	DIN 1693				

08 – DIGITAL RESOURCES

Technical Tools and Datasheets

Our website hosts free technical calculators and downloadable steel grade datasheets. You can run preliminary calculations while your quotation is being prepared.

CALCULATORS

agirlik-hesaplama	birim-agirlik	celik-yogunluk	kalite-esdeger	kimyasal-kompozisyon
sertlik-donusturucu	tolerans-hesaplayici	flans-olculeri	basinc-sinifi	dn-nps-donusum
civata-tork	sheet-metal-gauge	afs-hesaplama	sarz-hesaplama	shot-blasting

aktifcelik.com/en/araclar

DOWNLOADABLE DOCUMENTS

- 14 steel grade datasheets (TR / EN) — chemical composition, mechanical values, equivalents
- This catalogue (TR / EN)
- Sector-specific one-page technical summaries

aktifcelik.com/en/celik-kalitesi

09 – LOGISTICS AND EXPORT

Shipment and Documentation

Export execution matters as much as sourcing. From the choice of Incoterm to customs paperwork, the process is managed from a single point.

DELIVERY TERMS

- EXW — Ex works
- FCA / FOB — Free carrier or free on board
- CFR / CIF — Cost and freight, insurance included
- DAP / DDP — Delivered at place / duty paid

SHIPPING DOCUMENTS

- Commercial invoice and weight list
- Certificate of origin (ATR / EUR.1 / Form A)
- Inspection document (EN 10204)
- Bill of lading (B/L) or CMR
- Packing list and marking details

PACKING

- Seaworthy wooden crates or steel pallets
- Per-bundle labelling with heat number traceability
- Moisture barrier and corrosion-inhibiting coating

10 – CONTACT

Quotation and Technical Support

Send us the material, dimensions and quantity; our technical team will reply with the suitable grade and supply option.

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