

Oil and Gas

As Europe's leading speciality metals company we offer a extensive range of high strength corrosion resistant materials to meet the most demanding environments found in the Oil and Gas Sector.

Topside Applications

Offshore rigs must meet the challenge of maintaining structural integrity while limiting corrosion in a variety of seawater applications, pressure vessels, process equipment, pumps, valves and seawater fire protection systems. These all utilise super duplex UNS 32760 (ZERON® 100) and duplex 2205 to combat corrosion.

Subsea Applications

Process equipment operating in depths of excess of 9000 feet perform at extreme temperature and pressure. The challenge of operating in this environment is met by equipment manufactured in alloy 625 and super duplex stainless UNS 32760 (ZERON® 100) which have an excellent resistance chloride-ion SSC and crevice corrosion.

Downhole Applications

The severe conditions encountered during exploration and drilling see the utilisation of nickel alloys 718, 625, 725, K500 alongside super duplex stainless steel UNS 32760 (ZERON® 100).

Commonly Used Applications:

- Subsea Connectors
- Wellhead Equipment
- Down Hole Tooling
- Fasteners
- Valves
- Process Equipment

Associated Alloys:

Nickel & Titanium Alloys

- Alloy 625
- Alloy 718
- Alloy 725
- Alloy 825
- Alloy K500
- Alloy 400
- Alloy C276
- X-750

Titanium Grade 5

Duplex Stainless Steels

- 2205 Duplex F51

Super Duplex Stainless Steels

- UNS32760 F55
- ZERON® 100
- ZERON® 100 AFP

Stainless Steels

- A-286
- AL-6XN®
- Nitronic 50
- Nitronic 60



Thermal Processing

Heat Treating

Our thermal processing alloys are used for bar frame baskets, corrugated shrouds, and many other applications in the heat treatment and furnace building industries.

Steel and Aluminium Mills

Our materials are used for equipment such as radiant tubes, inner covers, argon oxygen decarburization (AOD) hoods and chutes, furnace rollers, heat shields, coal injection lances, burners, and recuperators.

Flare Tips

Flare tips and other high temperature applications utilise alloys such as 800H/AT, RA330[®], 253MA[®] and 310S Stainless steel. RA330[®] provides a cost effective solution for process equipment that requires oxidation resistance up to 1148 °C.

Associated Alloys:

Nickel Alloys

RA330[®]

RA333[®]

800H/AT

Alloy 230

Alloy 600

Alloy 601

Alloy 625

602 CA[®]

Stainless Steel Alloys

Alloy 310S

Alloy 321

253 MA[®]

Commonly Used Applications:

- Bar Frame Baskets
- Corrugated Shrouds
- Radiant Tubes
- Furnace Muffles
- Furnace Belts
- Vacuum Treating
- Annealing
- Furnace Rollers



Power Generation

Our power generation alloys are used in the most demanding applications within coal fired power plants, nuclear power plants and energy recovery units.

Boilers

Materials used in power station boiler applications are selected for their creep strength and hot corrosion resistance in elevated temperature environments. Depending on the presence of chlorine, sulfur or molten salts, alloys 253MA, 309, 310, RA330®, and 601 are utilized.

Pollution Control

Many of our alloys are used in pollution control systems, such as flue gas desulfurization (FGD) units, wet electrostatic precipitators (WESP), as well as some carbon capture absorbers. They utilise corrosion resistant alloys C276, 22, C263, 625, 20, and AL6XN® in aggressive environments.

Commonly Used Applications:

- Burners
- Low Nox Burners
- Dampers
- Biomass
- FGD Gas Desulphurisation
- Carbon Capture

Associated Alloys:

Nickel Alloys

800H/AT
Alloy 22
Alloy 230
Alloy 625
Alloy 718
Alloy 725
Alloy C263
Alloy C276
Alloy X
RA330®
RA333®
602 CA®
Alloy 600
Alloy 601

Cobalt Alloys

Alloy 188
L605

Stainless Steels

AL-6XN®
Alloy 310S
Alloy 321
253MA®

Super Duplex Stainless Steels

UNS 32760
Zeron 100®



Nickel for Petrochemicals & Refineries

In the Petrochemicals market NeoNickel corrosion resistant alloys including Duplex, Super Duplex, 400, C276, 22, B2/B3 and Titanium Grade 2 are used in the manufacture of acetic acid and acetic anhydride, which are key raw materials for the manufacture of washing bleaches and pharmaceuticals.

These alloys are also use in the manufacture of PTA (terephthalic acid) for the manufacture of plastic bottles , filters and polyester material.

In the Refineries market high temperature alloys are used in the construction of steam crackers, and naptha crackers for the production of Ethylene, Polyethylene, Styrene and Polypropylene.

Associated Alloys:

Nickel & Titanium Alloys

Alloy 20
Alloy 22
Alloy C276
Alloy B2/B3
Alloy 200/201
Alloy 400
Alloy K500
Alloy 600
Alloy 601
Alloy 625
Alloy 718
Alloy 725
Alloy 800H/AT
Alloy 825
Titanium Grade 2
Titanium Grade 5
Alloy RA330 ®
Alloy RA333 ®
Alloy 602CA

Super Duplex Stainless Steels

Zeron® 100
Zeron® 100 AFP
Zeron® 100 M
Zeron® 100 X
UNS S32760

Duplex Stainless Steels

2205
UNS S32205
UNS S31803

Stainless Steels

AL-6XN
Alloy 309
Alloy 310S
Alloy 321
Alloy 347
Alloy 253MA

Commonly Used Applications:

- Pressure Vessels
- Heat Exchangers
- Separators
- Manifolds
- Instrumentation
- Flow Control Equipment
- Pumps and Valves
- Safety Systems



Nickel for Pharmaceutical & Bio Synthetics

Alloy 22 has been selected as the alloy of choice for the manufacture of multipurpose pharmaceutical plants globally. Typical environments are organic solvents, sodium chloride with high levels of chlorides or fluorides present.

Alloy 22 has increasingly replaced the use of glass, carbon steel glass lined or flourosield lined process plant and stainless steel process equipment.

AL-6XN® is now increasingly being used in the Bio Synthetics market as an upgrade to 316L where the environment does not dictate the use of alloy 22.

Hygienic products including : tube, pipe, pipefittings , ferrules and flanges are now available in alloys 22 and AL-6XN® for use in high purity applications in the pharmaceutical and bio synthetic market.

Associated Alloys:

Nickel Alloys

Alloy 22
Alloy C276

Stainless Steels

AL-6XN®

Super Duplex Stainless Steels

Zeron® 100
UN5532760

Commonly Used Applications:

- Solvent Recovery Plants
- After Neutsche Pressure Filters
- Conical Mixers and Driers
- Tray Driers
- Glove Boxes & Containment Vessels
- Centrifuges



Nickel for Chemical Processing

Commonly Used Applications:

- Pressure Vessels
- Reactors & Agitators
- Mixers
- Heat Exchangers & Condensers
- Neutsche Pressure Filters, Centrifuges & Dryers
- Distillation Columns
- Piping Systems
- Pumps & Valves
- Safety Systems – Bursting Discs / Flame Arrestors / Fire Safe Valves
- Instrumentation & Flow Control Equipment
- Pollution Control Equipment

Associated Alloys:

Nickel & Titanium Alloys

Alloy 20
Alloy 22
Alloy C276
Alloy B2/B3
Alloy 200/201
Alloy 400
Alloy K500
Alloy 600
Alloy 601
Alloy 625
Alloy 718
Alloy 725
Alloy 800H/AT
Alloy 825
Titanium Grade 2
Titanium Grade 5
Alloy RA330®
Alloy RA333®
Alloy 602CA

Super Duplex Stainless Steels

Zeron® 100
Zeron® 100 AFP
Zeron® 100 M
Zeron® 100 X
UNS S32760

Duplex Stainless Steels

2205
UNS S32205
UNS S31803

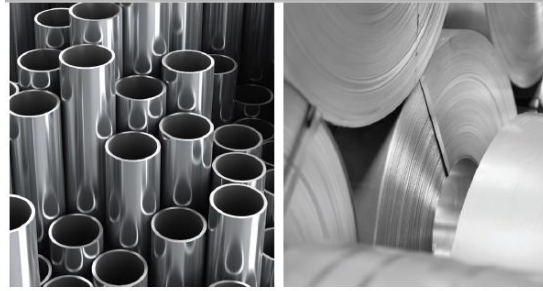
Stainless Steels

AL-6XN®
Alloy 309
Alloy 310S
Alloy 321
Alloy 347
Alloy 253MA

PRODUCT FORMS

Available product forms:

- Plate
- Sheet
- Coil
- Bar
- Pipe
- Tube
- Fittings
- Flanges
- Welding Consumables
- Added Value Components
- Machined components
- Valve seats
- Precision Ground Bar & Shafts



PROCESSING

- In-house Laser
- Waterjet
- 2D Laser Inspection
- Guillotine
- Bar Sawing
- Positive Material Identification
- Plate Saw
- Metal Spinning

In addition to the wide range of alloys and product forms available from stock, our Sheffield Conversion Centre can now offer a range of items produced by:

- Open and Closed Die Forging
- GFM Forging
- Rolling
- Heat Treatment
- Machine / Grinding

