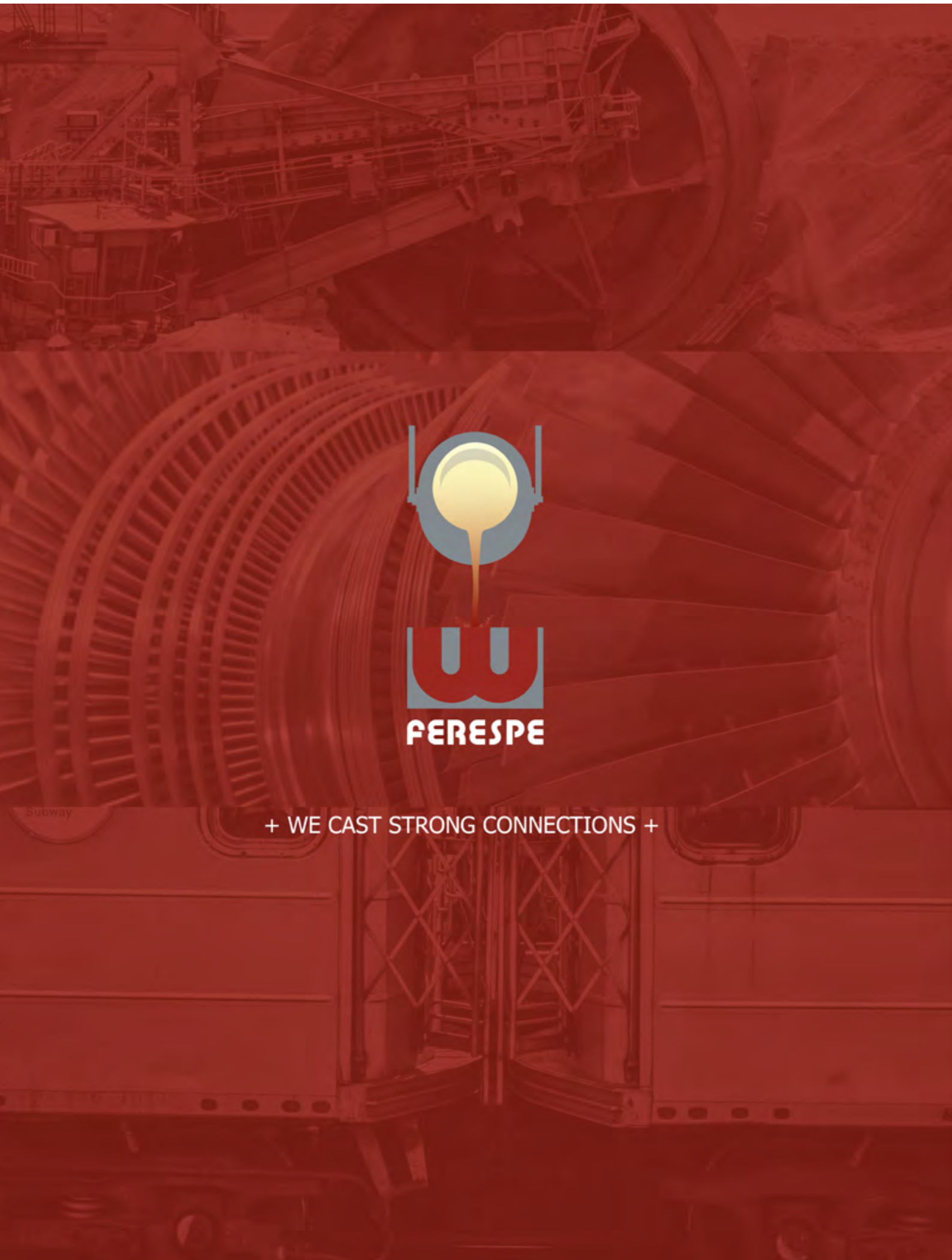
High Performance Materials



FERESPE

+ WE CAST STRONG CONNECTIONS +

FERESPE - High Performance Materials

Certificates & Qualifications

- **ISO 9001:2015**

DNV GL

- **NORSOK**

Code M-650 Rev.4 - Duplex and Super Duplex SS

- **Pumps & Valves**

Areva - KTA1401

ASME NCA 3800

- **Pressure Equipment**

TUV NORD - PED 2014/68/EU

and AD-MERKBLATT W0/TRD 100

- **Austenitic Stainless Steel**

Lloyds Register

- **Railway Industry**

DB

TUV NORD - EN 15085-2

- **Marine & Offshore Division**

Bureau Veritas - BV Mode II Scherme ABS

- **Ships**

DNV GL - Steel Castings

- **ISO 14001:2015**

DNV GL

The strong evolution of industry, economic growth and technological revolution on FERESPE'S main markets, led to the need for high performance materials, such as, heat resistant steels, optimized medium and low alloyed steels and wear resistant cast irons through:

Investment Casting &

- Up to 5kg
- High dimensional accuracy
- High roughness quality

Sand Casting

- Up up 650kg
- Good dimensional accuracy
- Good roughness quality

Focused on the production of technical parts for specific applications, we use the following alloys:

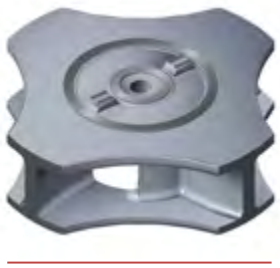
- Medium and low alloy steels with a full range of low residuals
- Heat Resistant Steels, duplex and super-duplex, martensitic, austenitic and super-austenitic stainless steels
- Wear resistant cast iron

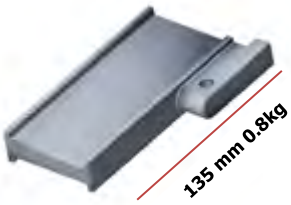
FERESPE is positioned in a small and medium series niche market, exporting about 90% of its production.

Casting Components for High Performance Applications

FERESPE has a wide range of materials for high performance applications, such as wear resistant cast irons for **shot blasting machines** among with **mining equipment**, optimized medium and low alloyed steels for **railway industry** as well as **pipe clamping**, and also heat resistant steels for **pump housings** and **boiler parts**.

Wear Resistant Cast Irons

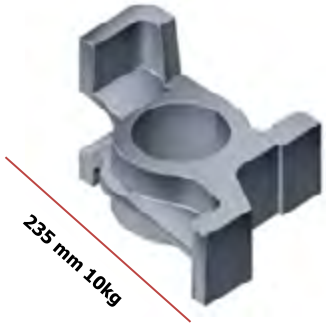




Mechanical Properties

Hardness (HRC) 32 - 68

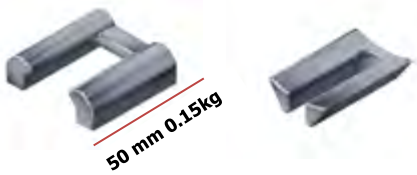
Optimized Medium and Low Alloyed Steels



Mechanical Properties

Yield Strength (MPa) 320 - 1035 Tensile Strenght (MPa) 560 - 1550 Elongation (%) 5 - 8 Impact Teste at RT (J) 16 - 25

Heat Resistant Steels



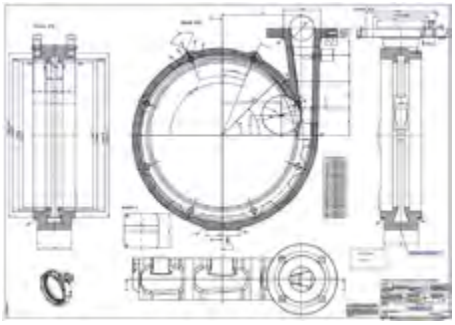
Mechanical Properties

Yield Strength (MPa) 235 - 550 Tensile Strenght (MPa) 430 - 760 Elongation (%) 8 - 25 Max. use temperature in air (°C) 1050 - 1100

ALWAYS AHEAD

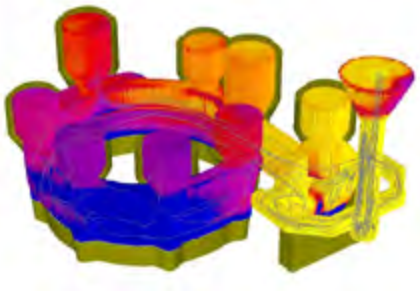
Product Engineering and Quality Control

To fulfill quality requirements, FERESPE combines the human experience with technology.



2D MODELING

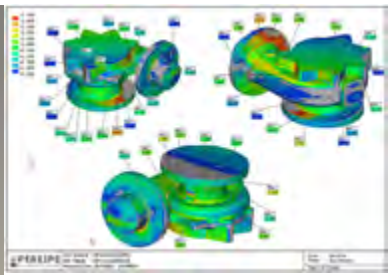
3D MODELING



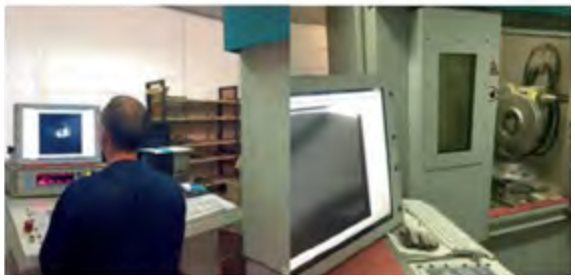
FLUID SIMULATION

FERESPE is constantly seeking improvements of material properties and manufacturing procedures. To support this pro-active attitude, FERESPE has built solid relationships with Universities and Technological Centres.

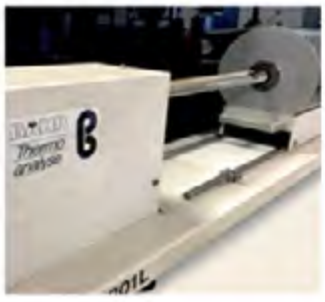
FERESPE continuously invests in state-of-the-art equipment ensuring at every stage of the production process a cutting-edge positioning.



PHOTOMETRIC 3D SCANNING
DIMENSIONAL CONTROL AND REVERSE ENGINEERING



DIGITAL X-RAY INSPECTION



DILATOMETRY

MAGNETIC PARTICLE ISPECTION

LIQUID PENETRANT INSPECTION

CHEMICAL ANALYSES

FERESPE'S List of High Performance Materials and Applications

WF Internal Ref.		Standard		Application								
		European	ASTM	Good weldability	Shot-blasting machines	Cork industry	Fertilizer industry	Coal industry	Earth moving equipment	Concrete industry	Wear resistant at high temperature	Wear and Corrosion resistant
Steels	WF 503	EN 10293:2015 GE300 (1.0558) + N	A148-08 Grade 80-40 (D50400)	✓	-	✓	+/-	+/-	+/-	+/-	-	-
	WF 504	DIN 1681:1967 GS-70 (1.0554)	--	✓	-	✓	+/-	+/-	+/-	✓	-	-
	WF 541	DIN 17205:1992 GS-25 CrMo4 (1.7218) LV	--	✓	-	+/-	✓	+/-	+/-	+/-	✓	-
	WF 544	DIN 17205:1992 GS-42 CrMo4 (1.7225) LV	--	-	-	✓	+/-	+/-	+/-	✓	✓	-
	WF 566	DIN17205:1992 GS-34 CrNiMo 6 V (Modif)	--	+/-	-	+/-	+/-	+/-	✓	+/-	-	-
	WF 568	EN 10340:2007 G18NiMoCr3-6 (Modif)	--	✓	-	+/-	+/-	+/-	✓	+/-	-	-
Stainless steels	WF 620	EN 10213:2007 GX4CrNi13-4 (1.4317) + QT	A352-06 CA6NM (J91540)	✓	-	-	-	-	-	-	-	✓
	WF 629	--	A351-00 CD4MCu	✓	-	-	✓	-	-	-	-	✓
	WF630	EN 10295 GX40CrNiSi25-12 (1.4837)	A 297 HH	-	-	-	-	-	-	-	✓	-
	WF631	EN 10295 GX40CrNiSi25-20	A 297 HK	✓	-	-	-	-	-	-	✓	-
	WF 637	EN 10295:2002 GX130CrSi29 (1.4777)	--	-	-	-	✓	-	-	-	-	+/-
	WF638	EN10295 GX40NiCrSiNb35-26	A 297 HP	-	-	-	-	-	-	-	✓	-
	WF 641	EN 10283:2010 GX2CrNiMoN22-5-3 (1.4470) + AT	A890-13 CD3MN (J92205) 4A	✓	-	-	-	-	-	-	-	+/-
	WF 645	EN 10283:2010 GX4CrNiMoN26-5-2 (1.4474) + AT	A890-13 CD6MN (J93371) 3A	✓	-	-	-	-	-	-	-	✓
White cast irons	WF 801	EN 12513 EN-GJN-HV600 (XCr14) AC	A532 CI II Type B	-	✓	✓	✓	✓	-	-	-	✓
	WF 804	EN 12513 EN-GJN-HV600 (XCr18) MC	--	-	+/-	✓	+/-	✓	-	-	-	✓
	WF 809	EN 12513 EN-GJN-HV600 (XCr23) MC/AC	A532 Cl III Type A	-	✓	✓	✓	✓	-	✓	-	✓
	WF 813	EN 12513 EN-GJN-HV600 (XCr23) MC/AC	--	-	+/-	+/-	+/-	+/-	-	-	-	✓
	WF 820	EN 12513 EN-GJN-HV520	A532 CI I Type B	-	+/-	+/-	+/-	+/-	-	✓	-	+/-
	WF 821	EN 12513 EN-GJN-HV550	A532 CI I Type A	-	+/-	+/-	+/-	+/-	-	✓	-	+/-
	WF 823	EN 12513 EN-GJN-HV600	A532 CI I Type D	-	+/-	+/-	+/-	+/-	-	✓	-	+/-

✓	With advantage
+/-	Can be used
-	Not recommended

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