

CASTINGS FOR EXTREME WEAR

www.cmw.pt



CMW FOUNDRIES

QUALITY AND KNOW-HOW TO DELIVER COMPLETE SOLUTIONS



CMW Foundries is a Portuguese foundry group founded in 1981.

We are specialists in **wear resistant** technical castings, and we produce sand castings in high alloyed cast iron, steel, stainless steel and nickel based alloys. Our castings are manufactured to resist to **temperatures, abrasion, impact and corrosion.**

We operate three foundries in Portugal, two close to Oporto and one near Lisbon.



CMW FOUNDRIES

QUALITY AND KNOW-HOW TO DELIVER COMPLETE SOLUTIONS

With installed capacity to produce 15.000 tons of castings per year, we can manufacture and deliver finished castings in a wide variety of alloys, for weights up to 10 Tons.

We keep engineering, pattern making, production, quality control and machining under one roof, to create an efficient process and short communication lines, which reflects our full commitment to ensure high quality products and on-time deliveries.



CMW FOUNDRIES

IN 10 IDEAS



Since 1981

Steel and alloyed irons foundries

Three production plants in Portugal

Single source from desing to assembly

90% of production for exportation

Experience & Technology

Full machined castings

Lot sizes from single casting to large series

Wide range of alloys

From 1kg to 10 tons products

Experts in wear-resistant materials

EXPORT COUNTRIES

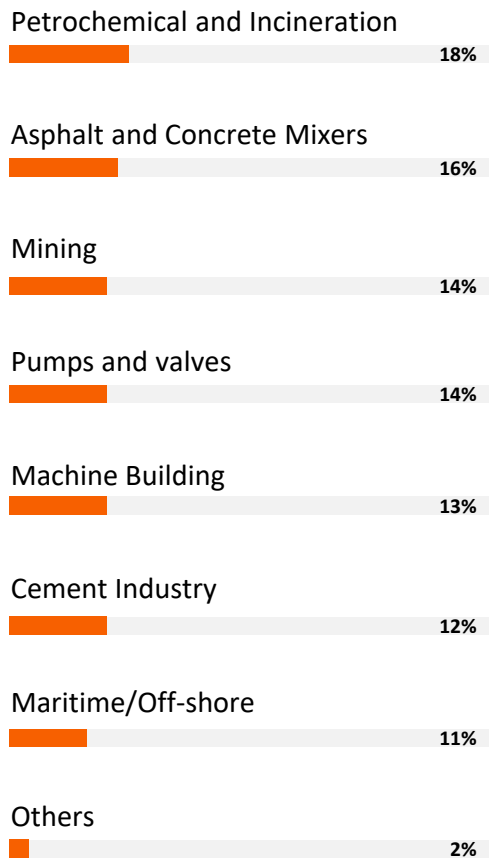
Germany . Spain . France . Netherlands .
Belgium . Italy . Switzerland . Austria .
Ireland . United Kingdom . Finland .
Sweden . Denmark . Romania . Canada .
USA . Venezuela . Japan . Israel . Morocco
. Tunisia . Egypt . Mozambique . Angola .
South Africa



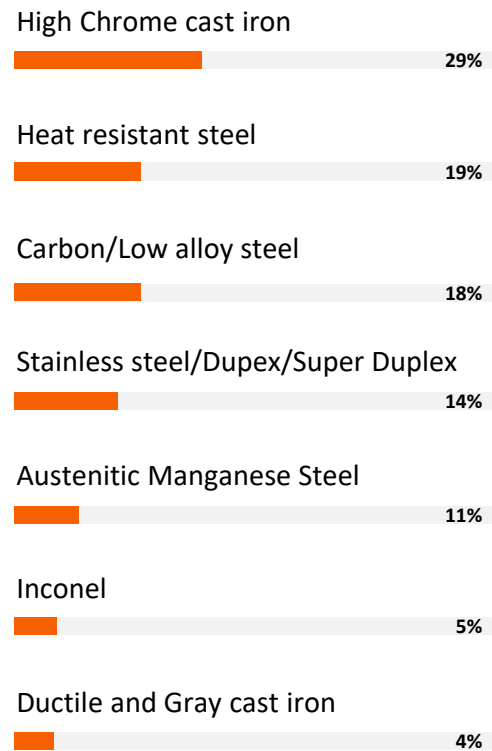
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MARKETS & MATERIALS

MARKETS



MATERIALS



CMW FOUNDRIES

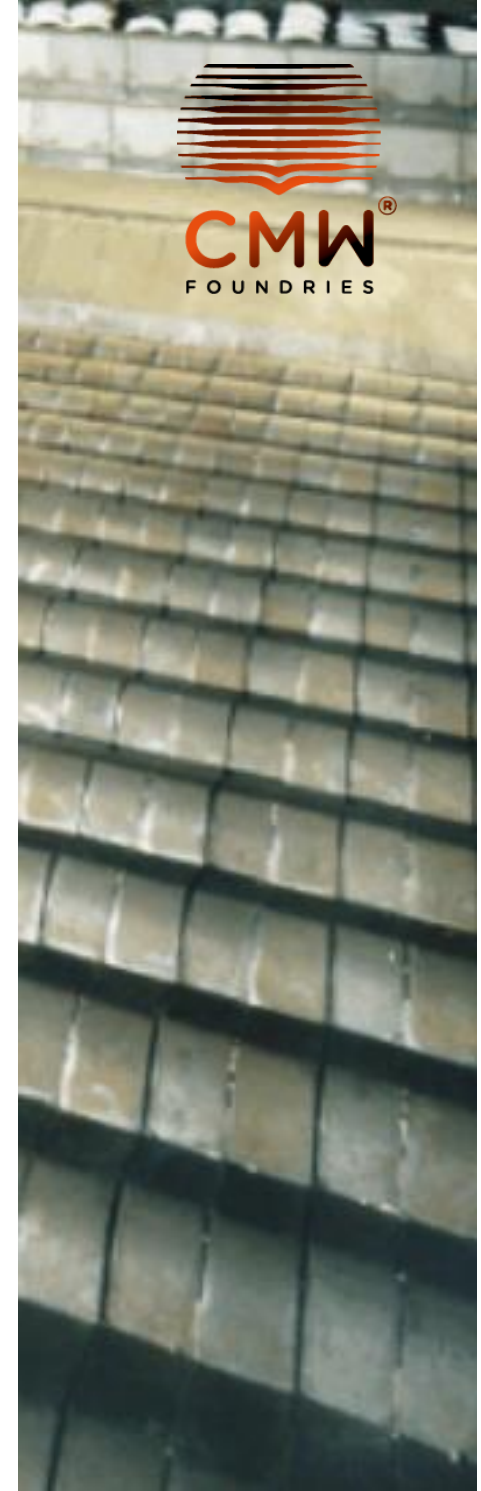
WASTE/BIOMASS INCINERATORS

We manufacture and provide combustion grates and grate bars for several types of waste and biomass incinerators for more than 40 years.

With CMW Foundries you have found a partner able to interpret your wear problems and support with solutions to optimize life time of your equipment.

HEAT RESISTANT STEEL ALLOYS PRODUCED BY CMW

Material	Maximum temperatures (Celcius) of application						Chemical composition (average values)		
	Combustion atmosphere								
	Oxidizing			Reducing					
	suplhur	< 2g	> 2g	suplhur	< 2g	> 2g			
DIN Nº	free	S/Nm ³	S/Nm ³	free	S/Nm ³	S/Nm ³	%C	%Cr	%Ni
1.4710	850	800	750	800	800	750	0.30	7.0	-
1.4729	900	870	800	850	850	800	0.40	13.0	-
1.4743	950	920	900	900	900	850	1.60	18.0	-
1.4776	1150	1150	1100	1100	1080	1060	0.40	29.0	-
1.4777	1100	1100	1050	1050	1030	1020	1.30	29.0	-
1.4823	1150	1120	1100	1100	1080	1050	0.40	27.0	4.0
1.4837	1150	1100	1050	1040	1040	-	0.40	25.0	12.0
1.4848	1150	1100	-	1080	1040	-	0.40	25.0	20.0
2.4879	1200	1200	1150	1150	1150	1100	0.40	29.0	49.0



CMW FOUNDRIES

COMMITMENT WITH THE COSTUMER

We are focused on long term customer satisfaction through competitive prices, high quality of castings, on time deliveries and efficient service.

Our core business is supporting costumers with technical assistance in order to develop and produce wear solutions in materials resistant to abrasion, impact, corrosion, and temperature, to increase lifetime of components and achieve cost savings.



CMW FOUNDRIES

PRODUCTION FLEXIBILITY



PROJECT

CAD tools and simulation software Solidcast/Flowcast

Rapid Prototyping – 3D printing

Reverse Engineering with Faro Edge portable measuring machine

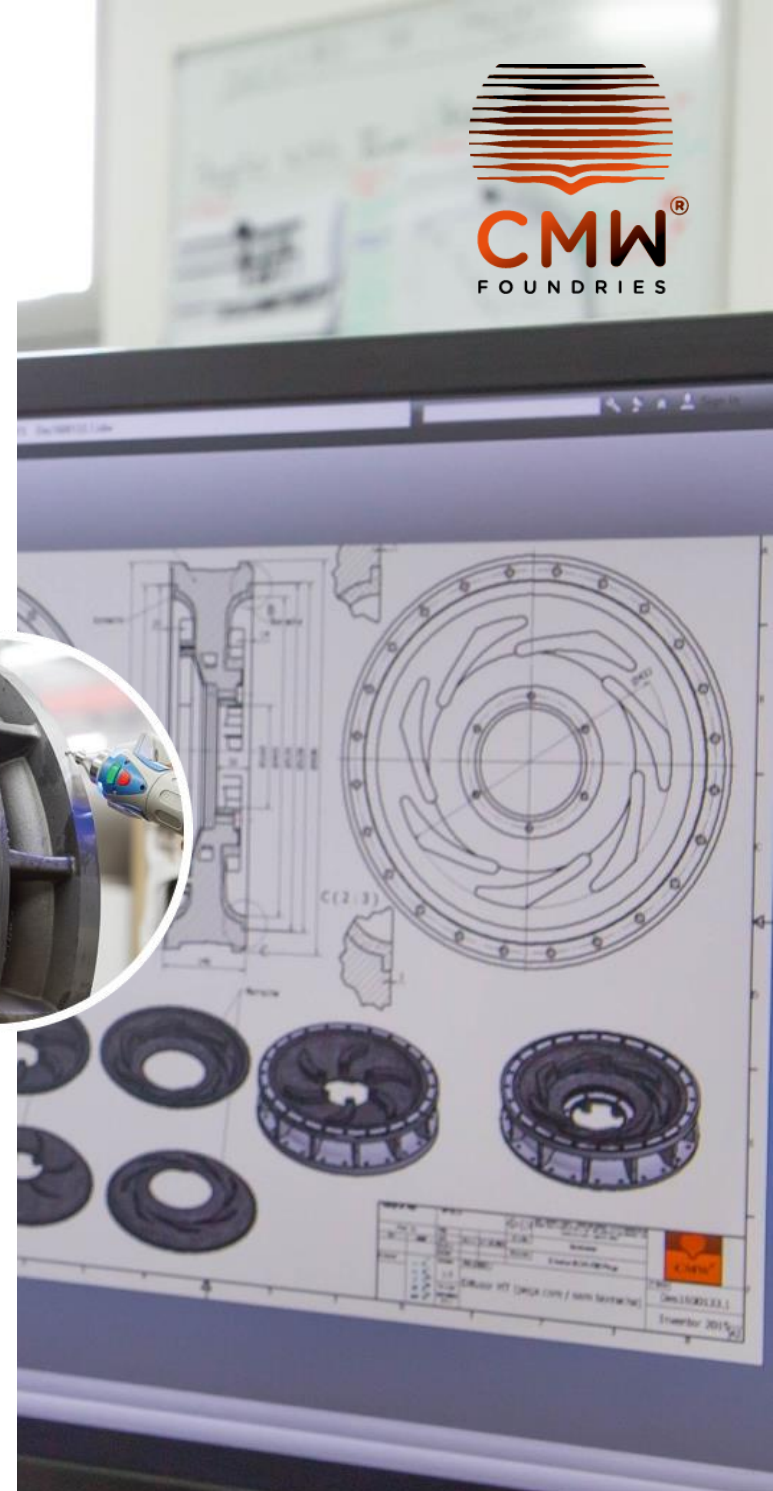
PATTERN SHOP

Manufacturing of moulding equipment's

Pattern making based on technical drawings, 3D CAD models or prototypes

Materials: Wood, epoxy and foam

CNC Machine for pattern construction 3 axis 5x2meters



CMW FOUNDRIES

PRODUCTION FLEXIBILITY

MOULDING LINES

1 x automatic – 700 x 600 x 500 mm
90 molds/hr – green sand

1 x pat. Flow no bake – 1300 x 1250 x 850 mm
12 molds/hr – phenolic resin sand

1x pattern flow – 3000 x 2000 x 1000 mm
7 molds/hr phenolic resin sand

1 x pattern flow – 4000 x 2000 x 2000 mm
7 molds/hr – phenolic resin sand

1 x hand moulding – 2500 x 2000 mm
phenolic resin sand

1 x hand moulding – No size restriction phenolic resin sand



CMW FOUNDRIES

PRODUCTION FLEXIBILITY

CORE SHOP

Automatic and manual processes

MELTING

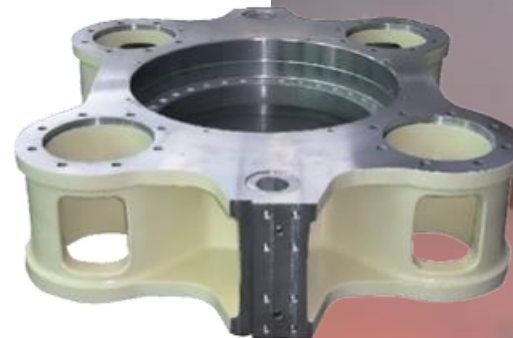
Induction melting furnaces, ranging from 750 kg to 6 Tons

Electric arc furnaces of 6 Tons

HEAT TREATMENT

Heat treatment with different quenching media
(Water, polymer mix and fan coolers)

Capacity from 5 Tons up to 20 Tons



CMW FOUNDRIES

PRODUCTION FLEXIBILITY

FINISHING OPERATIONS

Shot blasting (steel and stainless steel shot), fettling shop

Robot ABB for automatic grinding

Machining, conventional and CNC up to $\varnothing 3500\text{mm}$

LABORATORY

Spectro optical emission spectrometers

Niton portable spectrometer for PMI

Metallographic testing equipment with Leica image analysis software

Universal testing machine for tensile/ compression 60 Tons

Impact test machine 300 J

Universal hardness tester HCR, HB, HV



CMW FOUNDRIES

PRODUCTION FLEXIBILITY

FINAL QUALITY CONTROL

Portable durometers Equotip

Ferriscope Fischer

Faro Edge portable measuring machine

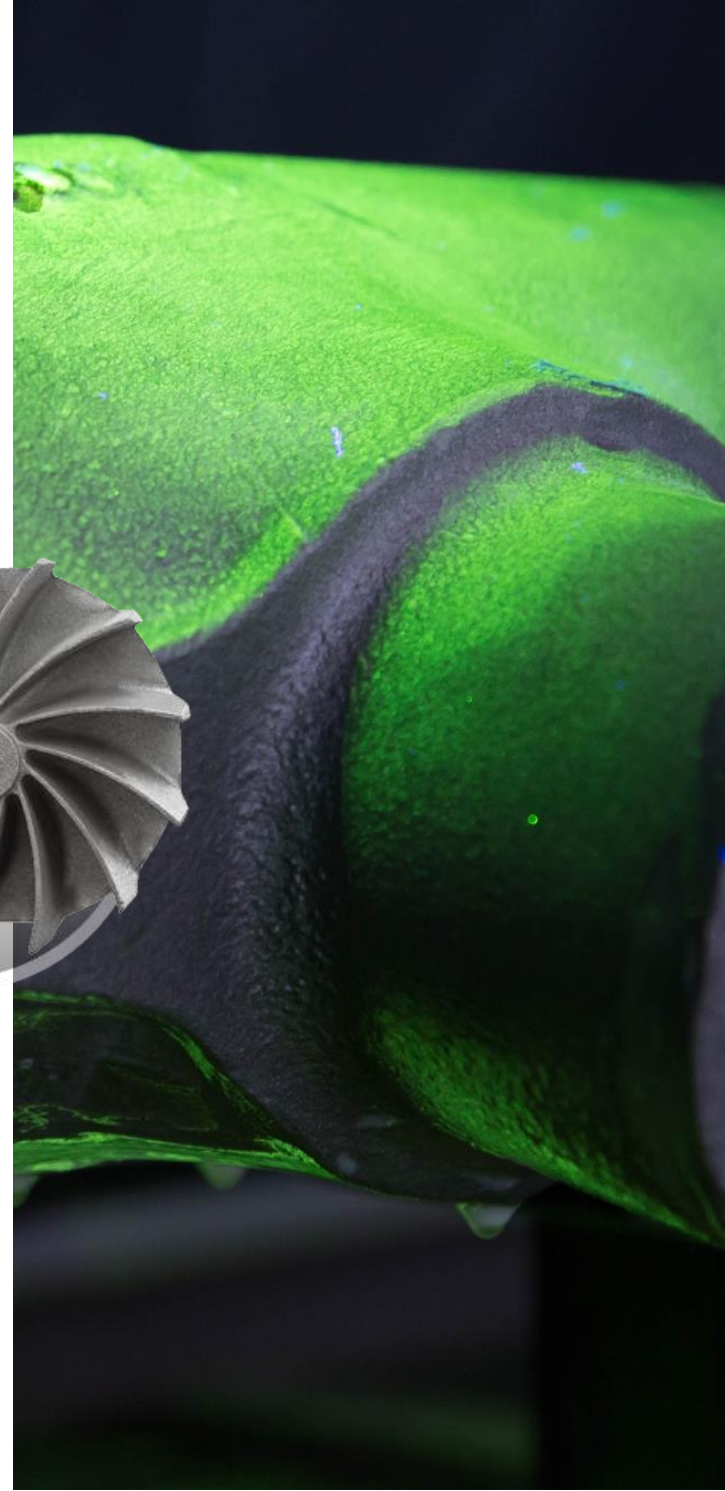
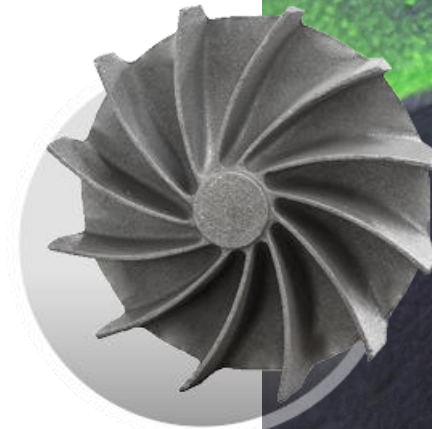
NON DESTRUCTIVE TESTS

Ultrasound tester Karl Deutsch

Magnetic tester Magnaflux

Penetrant liquid test

Procedures and level II qualified operators according to
EN ISO 9712:2012 and ASNT SNT-TC-1A



CMW FOUNDRIES

QUALITY



QUALITY ASSURANCE

Welding engineers

ISO 9001:2015

PED 2014/68/EU ANNEX 1 – Point 4.3

ABS – Facilities and associated quality procedures approval for marine applications castings

DNV GL – Approved manufacturer according DNV GL rules for classification – ships

BV – Recognition for BV mode II scheme, range of steel and iron castings

LRS – Approved manufacturer in accordance with LRS requirements for list 2 steel castings: carbon/carbon manganese steels

CMW complies with the requirements of environmental legislation and approved codes of practice.





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