



# **CREUSABRO® 8000<sup>P</sup>**

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# CREUSABRO® 8000<sup>P</sup>

Creusabro 8000 is a wear resistant steel that combines extreme resistance to abrasion together with a high level of toughness. The ability of this grade to work harden offers an increase of up to 50% service life compared to conventional 500HBW materials.

## Applications

Cement plants, quarry, mining and earth-moving equipment, steel production and recycling plants.

## Hardness

As supplied 470HBW average, 430HBW minimum.

## Chemical Composition

C	Mn	Cr	Mo	Ni	S	P
0.280 max	1.60 max	1.60 max	0.20 max	0.40 max	0.005 max	0.015 max

## Mechanical Composition

Yield stress	Tensile strength	Elongation	Impact ISO V-notch
1250 MPa	1630 MPa	12%	40J @ -20°C

## Processing

### Profiling

Oxy-gas, plasma and laser profiling can be carried out at works temperature (+10°C) up to 40mm thick. Plates over 40mm thick should be preheated to 150°C.

### Shearing

Not recommended, even for thinner plates.

### Forming

#### Cold forming

It is advisable to use as generous a radius as possible and ensure plates are above 10°C. Power requirements are extremely high and springback should be allowed for. To avoid cracking, flame cut plate edges should have a 2-3mm wide chamfer ground on top and bottom edges, along the bend circumference.

The following table is valid for bending angles up to 90°, where t = plate thickness.

Bending direction (bend axis)	Minimum inside bending radius	Minimum V-block opening
Perpendicular to rolling direction	6t	16t
Parallel to rolling direction	8t	18t

### Three Tier Rolling

Inside diameter  $\varnothing \geq 40 T$ .

## General Recommendations for Cold Forming

Use press or rolls with a sufficient power.

Warming of cold plates must be carried out at works temperature, good edge preparation is essential, forming to be carried out in several stages giving the material time to plastically deform.

## Hot Forming

This operation can be carried out between 450°C - 500°C up to 15mm thickness, without any significant loss of properties.

## Drilling

This operation is difficult because of the grade's very high hardness. Special drills with replaceable carbide inserts are recommended and drilling will require a very rigid set-up with an abundant flow of cutting fluid.

The following speeds / feeds are appropriate.

10mm dia		15mm dia		20mm dia		30mm dia	
rpm	Feed mm/rev	rpm	Feed mm/rev	rpm	Feed mm/rev	rpm	Feed mm/rev
130	0.10	105	0.2	65	0.2	45	0.3

## Welding

Creusabro 8000 can be welded by means of all standard processes. Consumables similar to those recommended for structural steels can be used.

Process Standard	Manual Welding Coated Electrode	Semi-Automatic (MIG)
AWS TYPE	AWS A5.1 E7016 Or E7018 class	AWS A 5.18 ER70S4 or ER70S6 AWS A 5.20 / ER71T5 class
AFNOR TYPE	EN499 E42 4B X 2H5	EN440 GS23 X G X Si EN758 / T42 3B XH5

Welds subjected to heavy wear should be finished by overlaying : electrode type AWS A 5-5: E 13018 class, wire type AWS A 5-28: ER 120S1 class.

## General Recommendations

Stoving of electrodes and flux in accordance with producer's recommendations.

Combined thickness  $\leq$  50mm (determined by AFNOR or DIN) are welded without preheating.

## Thickness Range

8mm to 50mm thickness

Note: IMS UK and its suppliers undertake continual material development and the data is a general guide, accurate at the time of printing. Buyers and users should satisfy themselves as to the suitability of the selected steel for their particular application.

## Processing Facilities

- CAD / CAM Profiling
- Plasma Profiling
- Laser Profiling
- Oxy – gas Profiling
- DXF Compatible
- Perforating
- Forming
- Drilling and Countersinking
- Beveling
- Welded Fabrications

# CREUSABRO 8000

Part of the IMS Group, with sales offices established in over 14 European countries, IMS UK is a major distributor and processor of Abrasion Resistant and High Yield Steel plate throughout the UK and Ireland.



IMS have an extensive stock of 3mm - 120mm plate, including their branded ABRO range of abrasion resistant grades, and offer full technical and material selection advice and support to provide cost effective solutions for complex applications.

The abrasion resistant stock range comprises standard 400 and 500 brinell grades, 11-14% manganese, as well as the more specialised Creusabro 4800 and Creusabro 8000 materials. Weld overlay Ultraclad 800 offers even higher performance in certain

applications. For high strength and weight saving applications RQT 701 is also available.

With over 100 years of specialist knowledge within the steel industry, the company offers in-house manufacturing facilities, to provide profiled, formed and drilled parts and welded fabrications, supported by a CAD/CAM design service ensuring precision manufactured components.

Spec	Operating Temp	Cold forming	Hot forming	Welding	Drilling	Profiling	Wearlife x Mild Steel	Impact strength
Abro 400	200°C Max	B	X	A	B	GPWL	3 to 4	High
Abro 500	200°C Max	C	X	B	C	GPWL	6 to 8	High
Creusabro 4800	350°C Continuous 400°C Intermittent	B	A	A	B	GPWL	3 to 5	High
Creusabro 8000	300°C Continuous 350°C Intermittent	C	A	B	C	GPWL	8 to 10	High
Abro M	Ambient only	B	B	B	C to X	PWL	20 to 30	Very high
Ultraclad 801	450°C Continuous 600°C Intermittent	A	X	A	X	PWL	20 to 30	Moderate to high
690 Yield	Ambient	A	X	A	A	GPWL	1.5 to 2	Very high

A = Possible  
B = Possible with some difficulty  
C = Difficult  
X = Not possible\*

P = Plasma  
W = Water jet  
L = Laser  
G = Gas

\*Consult our technical sales for recommended methods of fixing.



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