

Continuous-cast iron from ACO Eurobar

The company

ACO Eurobar is a leading European manufacturer of high-quality concast iron in bar form. Our capabilities include supply of finished or semi-finished parts as well as bars in both machined and as-cast execution.

ACO Eurobar GmbH is a subsidiary of ACO Guss GmbH, one of Europe's leading

foundries with a melting capacity of 75 000 tons which is converted to machine-moulded iron castings as well as continuous-cast bars. ACO Guss in turn constitutes the founding activity of ACO, the German group which is a leading player on the world stage for industrial, communal and domestic drainage. We are therefore part of a strong and

dynamic family-owned enterprise.

Through its network of subsidiaries and affiliated distribution partners, ACO Eurobar strives to collaborate with customers in a spirit of partnership to develop customised products, service and support.

The products

ACO Eurobar's product programme conforms to EN 16482 which is a new standard (2014) and the only one in the world specifically addressed to continuous-cast iron in bar format. The difference between EN 16482 and corresponding standards for form-cast

iron parts, such as ASTM A48 and A536, is that mechanical properties are specified for samples taken from finished bar at a location half-way between its surface and centre, and not for a separate and unrepresentative cast sample. This means that the mechanical

properties which are certified conform to those of the product actually supplied.

The mechanical characteristics of ACO Eurobar® continuous-cast iron bars are summarised in the tables below:

Grey iron

Designation EN 16482	Tensile strength, R_m , MPa min.	Hardness, HBW ²⁾	Microstructure
EN-GJL-150C	80 – 110 ¹⁾	110 – 180	Mainly ferrite: pearlite < 10% in centre
EN-GJL-250C	155 – 195 ¹⁾	170 – 240	Pearlite + ferrite: > 60% pearlite in centre
EN-GJL-300C	185 – 220 ¹⁾	200 – 290	Mainly pearlite: > 80% in centre

¹⁾ Depends on dimension

²⁾ Hardness level is guaranteed (this is over and above the stipulation of EN 16482).

Ductile iron

Designation EN 16482	$R_{p0,2}$, MPa min. ¹⁾	R_m , MPa min. ¹⁾	Elongation, % min ¹⁾	Hardness, HBW ²⁾	Microstructure
EN-GJS-400-18C-LT ³⁾	220 – 240	370 – 400	12 – 18	130 – 180	Mainly ferrite
EN-GJS-400-15C	240 – 250	370 – 400	11 – 15	130 – 180	Mainly ferrite
EN-GJS-500-7C	290 – 320	420 – 500	5 – 7	150 – 240	Ferrite-pearlite
EN-GJS-500-14C ⁴⁾	360 – 400	470 – 500	10 – 14	180 – 220	Mainly ferrite
EN-GJS-600-3C	340 – 370	550 – 600	1 – 3	200 – 290	Pearlite-ferrite
EN-GJS-700-2C	380 – 420	650 – 700	1 – 2	235 – 310	Mainly pearlite

¹⁾ Depends on dimension

²⁾ Hardness level is guaranteed (this is over and above the stipulation of EN 16482).

³⁾ Guaranteed impact toughness KV \geq 10J at -20°C

⁴⁾ Ferritic ductile iron with high silicon content



Comparison EN 16482 with international standards outside Europe

Designation EN 16482 ¹⁾	ASTM A48/ A48M-03 (2008) ²⁾	JIS G5501 (1995)	ISO 185 (2005)	ASTM A536-84 (2014) ²⁾	JIS G5502 (1995)	ISO 1083 (2004)
Grey irons						
EN-GJL-150C ³⁾	Class 30 (annealed)	FC200	150	-	-	-
EN-GJL-250C	Class 35	FC250	250	-	-	-
EN-GJL-300C	Class 40	FC300	300	-	-	-
Ductile irons						
EN-GJS-400-18C-LT	-	-	-	60-40-18	FCD 400-18L	400-18L
EN-GJS-400-15C	-	-	-	65-45-12	FCD 400-15	400-15
EN-GJS-500-7C	-	-	-	80-55-06	FCD 500-7	500-7
EN-GJS-500-14C	-	-	-	-	-	500-10
EN-GJS-600-3C	-	-	-	-	FCD 600-3	600-3
EN-GJS-700-2C	-	-	-	100-70-03	FCD 700-2	700-2

¹⁾ EN 16482 is a standard for continuous-cast material; the other standards relate to form-cast parts.

²⁾ The correspondence between ASTM and the other standards cited is not exact.

³⁾ The addendum "C" indicates that mechanical properties are determined on a sample taken from the concast bar as supplied.

Dimensional programme

As standard, rounds, squares, rectangles and half rounds are available in dimensions 40 – 400 mm. Dimensions outside this range can be offered and supplied upon request.



If you should need more information

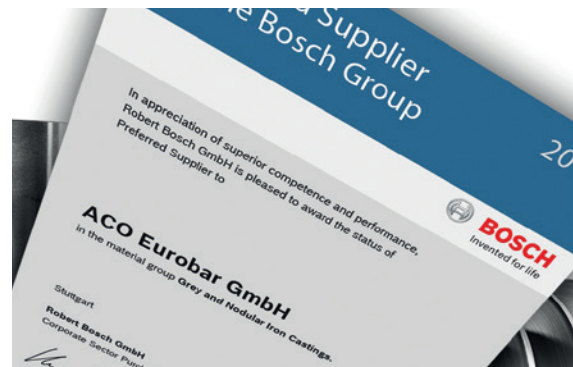
ACO Eurobar's Technical Documentation can be freely downloaded from www.aco-eurobar.com. In this document, you will find a complete description of our product offering in relation to grades, mechanical properties, dimensional tolerances, straightness and shape, machining allowances and microstructural characteristics

pertaining to both graphite and the matrix.

If you wish for a deeper understanding of ductile iron, its microstructure, mechanical characteristics and its usefulness in various applications (especially as a replacement for steel) then please request a copy of our Ductile

Iron Handbook by completing the digital form on www.aco-eurobar.com.

A number of other useful features can be found on our home page such as a weight calculator app and for established customers, access to the list detailing the extensive stock which is maintained at the plant in Kaiserslautern, Germany.



The Bosch Group has again awarded the status of Preferred Supplier for continuous cast iron to ACO Eurobar GmbH in 2015.

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