

PIÈCES DE FONDERIE EN FONTE — DONNÉES TECHNIQUES

FONTES DUCTILES

Cette fiche technique présente la gamme complète de fontes ductiles de Monmet : fontes ductiles standards (ASTM A536), fontes ductiles austénitiques NiResist (ASTM A439, A571) et fontes ductiles austemperées ADI (ASTM A897). Chaque nuance est spécifiée par sa composition chimique, ses propriétés mécaniques minimales et ses équivalences aux normes britanniques (BS) et allemandes (DIN).

Monmet propose une gamme complète de pièces coulées en fonte : grise, ductile, ni-hard, ni-resist et fonte blanche à haute teneur en chrome.

Note : les tableaux techniques ci-après (compositions chimiques, propriétés mécaniques, équivalences de normes) sont présentés en anglais selon les conventions internationales ASTM, BS et DIN.

ALLOY	ASTM SPECIFICATION	CHEMICAL COMPOSITION (Maximum unless range specified)						MINIMUM MECHANICAL PROPERTIES					EQUIVALENT FOREIGN SPECS		CHARACTERISTICS & APPLICATIONS
		C %	Si %	Mn %	Ni %	Cr	Other	CONDITION	TENSILE STRENGTH (KSI)	YIELD STRENGTH (KSI)	ELONGATION %	BRINELL HARDNESS (BHN)	BRITISH STANDARD	GERMAN STANDARD	
DUCTILE IRON	A536:60-40-18							As Cast	60	40	18	150-173	BS 2789 350/22, 400/18	DIN 1693 GGG-40	60-40-18 has excellent machineability (high ductility & shock resistance). Its structure does not lend itself to hardening by induction or flame. Applications include components subject to thermal & mechanical shock such as pressure valves, automotive suspensions & knuckles. 65-45-12 is the most commonly used ductile iron. It combines good strength & ductility with excellent machineability. Applications include valves, casings, impellers, automotive suspension parts, transmission cases, housings & heads.
	A536:65-45-12							As Cast	65	45	12	160-190	BS 2789 420/12		
	A536:80-55-06							As Cast Normalized	80 100	55 62	8 4	180-240 230-290	BS 2789 500/7	DIN 1693 GGG-50	80-55-06 & 80-60-03 are characterized by their predominantly pearlitic structure, high strength & hardness but are readily machined. The alloys are used in applications involving severe stress, shock or high pressure applications such as heavy duty gears, sprockets, crankshafts, car journal boxes, housings, rotors, piston heads, and compressor cylinders.
	A536:80-60-03							As Cast Normalized	80 100	60 65	3 3	190-250 240-300	BS 2789 600/3	DIN 1693 GGG- 60	
	A536:100-70-03							As Cast Normalized	100 110	70 85	3 3	220-280 260-370	BS 2789 700/2, 800/2	DIN 1693 GGG- 70	These grades are characterized by high strength & high hardness capabilities. They are used where high strength is required in heavy sections. Applications include heavy duty gears, mandrels, liners, rolls, dies, pistons, impellers & agricultural implements.
	A536:120-90-02							As Cast Normalized	120 125	90 95	2 2	290-350 295-420	BS 2789 900/2	DIN 1693 GGG- 80	
AUSTENITIC HIGH ALLOY DUCTILE IRON	A439:NIRESIST-D2	3.0	3.0	1.3	18.0-22.0	1.75-2.25			58	30	8	139-202	BS 3468 S-NiCr202, S2	DIN 1694 GGG- NiCr202	These Ductile NiResist Grades have higher strength & ductility than the corresponding NiResist Gray Iron Grades. The austenitic structure and high nickel content of these alloys provide corrosion and heat resisting properties & high resistance to thermal shock up to 800 F. The corrosion resistance of these alloys lie between Gray Iron & Austenitic Stainless Steels. The high carbon content makes this alloy a less expensively alloy to manufacture than the stainless steel. The many applications include valves, pump casings, impellers, liners, diffusers, turbochargers, housings, deflectors, stator plates & cylinders.
	A439:NIRESIST-D2B	3.0	3.0	1.3	18.0-22.0	2.75-4.0			58	30	7	148-211	BS 3468 S-NiCr203, S2B	DIN 1694 GGG- NiCr203	
	A439:NIRESIST-D2C	2.9	3.0	2.4	21.0-24.0	0.5			58	28	20	121-211	BS 3468 S-Ni22, S2C	DIN 1694 GGG-Ni22	
	A439:NIRESIST-D3	2.6	2.8	1.0	28.0-32.0	2.5-3.5			55	30	6	139-202	BS 3468 S-NiCr303	DIN 1694 GGG-NiSiCr3052	
	A439:NIRESIST-D3A	2.6	2.8	1.0	28.0-32.0	1.0-1.5			55	30	10	131-193	BS 3468 S-NiCr301, S3	DIN 1694 GGG- NiCr301	
	A439:NIRESIST-D4	2.6	5.0-6.0	1.0	28.0-32.0	4.5-5.5			60			202-273	BS 3468 S-NiSiCr3055	DIN 1694 GGG-NiSiCr3055	
	A439:NIRESIST-D5	2.4	2.8	1.0	34.0-36.0	0.1			55	30	20	131-185	BS 3468 S-Ni35	DIN 1694 GGG-Ni35	
	A439:NIRESIST-D5S	2.3	4.9-5.5	1.0	34.0-37.0	1.75-2.25			65	30	10	131-193	BS 3468 S-SS	DIN 1694 GGG- NiSiCr3552	
	A571:NIRESIST-D2M	2.2-2.9	1.5-2.5	3.75-4.5	21.0-24.0	0.2		Annealed Norm	60 65	25 33	25 30	111-171 120-170			Charpy "V" @ 70 F of 15 Ft. Lbs. Low temperature applications such as expanders, pumps, valves & compressors.
	NIRESIST-D2W	3.0	3.0	1.5	18.0-22.0	1.75-2.25	Cb 0.10-0.17		58	30	8	140-210	BS 3468 S-2W	DIN 1694 GGG-NiCrNb202	Weldable grade of Type D2.
AUSTENITIC HIGH ALLOY IRONS	A897:125-80-10	3.2-3.8	3.5	0.4	1.5-3.5	0.1	Mo 0.10-0.40 Cu 1.0	Q & T	125	80	10	269-321			These Austempered Ductile Irons (ADI) offer a unique combination of high strength, ductility, fatigue, fracture toughness & wear resisting properties. ADI is a low cost material with good casting qualities & machining characteristics. Applications include various types of gears (spiral, helical, timing, bevel, pinion), wear plates, track wheels, draw & break rolls.
	A897:150-100-7	3.2-3.8	3.5	0.4	1.5-3.5	0.1	Mo 0.10-0.40 Cu 1.0	Q & T	150	100	7	302-363			
	A897:175-125-4	3.2-3.8	3.5	0.4	1.5-3.5	0.1	Mo 0.10-0.40 Cu 1.0	Q & T	175	125	4	341-444			
	A897:200-155-1	3.2-3.8	3.5	0.4	1.5-3.5	0.1	Mo 0.10-0.40 Cu 1.0	Q & T	200	155	1	388-477			
	A897:230-185	3.2-3.8	3.5	0.4	1.5-3.5	0.1	Mo 0.10-0.40 Cu 1.0	Q & T	230	155	0.2	444-555			

Monmet offers a complete range of iron castings from gray, ductile, ni-hard, ni-resist and high chrome white irons.

Ductile Iron
Austenitic High Alloy Ductile Iron
Austenitic High Alloy Iron