



Siempelkamp

Giesserei

Mechanical properties of ductile iron castings

produced by Siempelkamp Foundry GmbH in Krefeld, Germany.

The properties are determined on test pieces machined from cast-on samples as part of the acceptance tests.

grade of material	requirement actual value	wall thickness inch	type of test piece according to EN 1563	tensile strength R_m	0,2%-yield strength $R_{p0,2}$	elonga- tion A	Charpy-V-notch single-/median value at -4°F	struc- ture
				psi	psi	%	joule	
EN-GJS-400-15U	requirement	>2.4-7.9	type D	$\geq 53,664$	$\geq 34,809$	≥ 11		ferritic
	actual value	>2.4		54,389-59,465	36,259-42,061	12-22		
EN-GJS-400-18U-LT	requirement	>1.2-2.4	type C	$\geq 56,565$	$\geq 33,359$	≥ 15	$\geq 9/ \geq 12$	ferritic
	actual value	>1.2-2.4		56,565-59,465	37,710-39,885	18-25	13-17	
EN-GJS-400-18U-LT	requirement	>2.4-7.9	type D	$\geq 53,664$	$\geq 31,908$	≥ 12	$\geq 7/ \geq 10$	ferritic
	actual value	>2.4		53,664-56,565	33,359-36,985	15-25	13-19	
EN-GJS-400-18U-RT	requirement	>2.4-7.9	type D	$\geq 53,664$	$\geq 34,809$	≥ 12	$\geq 9/ \geq 12$	ferritic
	actual value	>2.4		54,389-59,465	36,259-42,061	12-25	10-18	
EN-GJS-400-18U	requirement	>2.4-7.9	type D	$\geq 53,664$	$\geq 34,809$	≥ 12		ferritic
	actual value	>2.4		54,389-59,465	36,259-42,061	12-25		
EN-GJS-450-10U	requirement	>1.2-7.9	type D	$\geq 59,465^*$	$\geq 42,061^*$	$\geq 10^*$		ferritic
	actual value	>1.2-7.9	+ a=200	62,366-65,992	44,236-47,862	12-25		
EN-GJS-500-7U	requirement	>2.4-7.9	type D	$\geq 60,915$	$\geq 42,061$	≥ 5		pearlitic/
	actual value	>2.4		62,366-79,770	42,061-50,763	5-15		ferritic
EN-GJS-600-3U	requirement	>1.2-2.4	type C	$\geq 87,023$	$\geq 52,214$	≥ 2		pearlitic
	actual value	>1.2-2.4		95,725-110,229	58,015-65,267	2-5		
EN-GJS-600-3U	requirement	>2.4-7.9	type D	$\geq 79,771$	$\geq 49,313$	≥ 1		pearlitic
	actual value	>2.4		81,221-94,275	50,763-63,817	2-5		
EN-GJS-700-2U	requirement	>2.4-7.9	type D	$\geq 95,725$	$\geq 55,114$	≥ 1		pearlitic
	actual value	>2.4	or IV**	104,427-118,931	65,267-79,771	2-6		
EN-GJS-800-2U	requirement	>2.4-7.9	type D	$\geq 108,778^*$	$\geq 63,817^*$	$\geq 2^*$		pearlitic
	actual value	>2.4	or IV**	113,129-121,832	78,320-87,023	2-4		
EN-GJS-900-2U	requirement	>2.4-7.9	type D	$\geq 123,282^*$	$\geq 79,771^*$	$\geq 2^*$		pearlitic
	actual value	>2.4		123,282-137,786	94,275-108,778	2-4		

* agreed with customer ** as cast-on samples

The mechanical properties of test pieces machined from cast-on samples may not reflect exactly the properties of the casting itself, but may be a better approximation than those obtained from a separately cast sample.