

Quality	C43	Flame and Induction Hardening Steel	<i>Technical card</i>
According to standards	UNI 7847: 1979		Lucefin Group
Number	-		rev. 2018

Chemical composition

C%	Si%	Mn%	P% max	S% max	
0,40-0,46 ± 0.02	0,15-0,40 ± 0.03	0,50-0,80 ± 0.04	0,030 + 0.005	0,030 + 0.005	Product deviations are allowed
Max Cr, Mo, Ni, Cu values can be agreed at the time of order placement					

Temperature °C

Hot-forming	Normalizing +N	Quenching +Q	Quenching +Q	Tempering +T	Stress-relieving +SR		
1100-850	870 air	840 water (HRC 54-58)	850 oil (HRC 51-57)	550-650 air	180		
Soft annealing +A	Isothermal annealing +I	Natural state +U	End quench hardability test	Pre-heating welding	Stress-relieving after welding		
690 air (HB max 220)	820 furnace cooling to 660, then air (HB 155-205)	- (HB max 231)	-	not recommended			
				Ac1 730	Ac3 780	Ms 360	Mf 150

Mechanical properties

Hot-rolled mechanical properties obtained on test blanks after **normalizing** treatment UNI 7847: 1979

test blanks Testing at room temperature (longitudinal)

diameter mm	R	Rp 0.2	A%	Kcu	HB
from to	N/mm ²	N/mm ² min.	min.	J min.	for information
16 100	570-720	300	18	-	169-223

Hot-rolled mechanical properties obtained on test blank after **quenching and tempering** (values valid for untreated products)

For quenched and tempered material supply), reported values must be guaranteed on the product

UNI 7847:1979. Use only as reference

test blanks Testing at room temperature (longitudinal)

diameter mm	R	Rp 0.2	A%	Kcu	HB
from to	N/mm ²	N/mm ² min	min.	J min	for information
16	690-840	470	15	25	210-250
40	640-790	400	16	20	198-237
100	570-720	360	17	20	169-223

For dimensions over 100 mm, mechanical properties can be agreed before order placement

Cold-drawn

size mm Testing at room temperature (longitudinal)

from to	R N/mm ²	Rp 0.2 N/mm ²	A% min	HB
---------	---------------------	--------------------------	--------	----

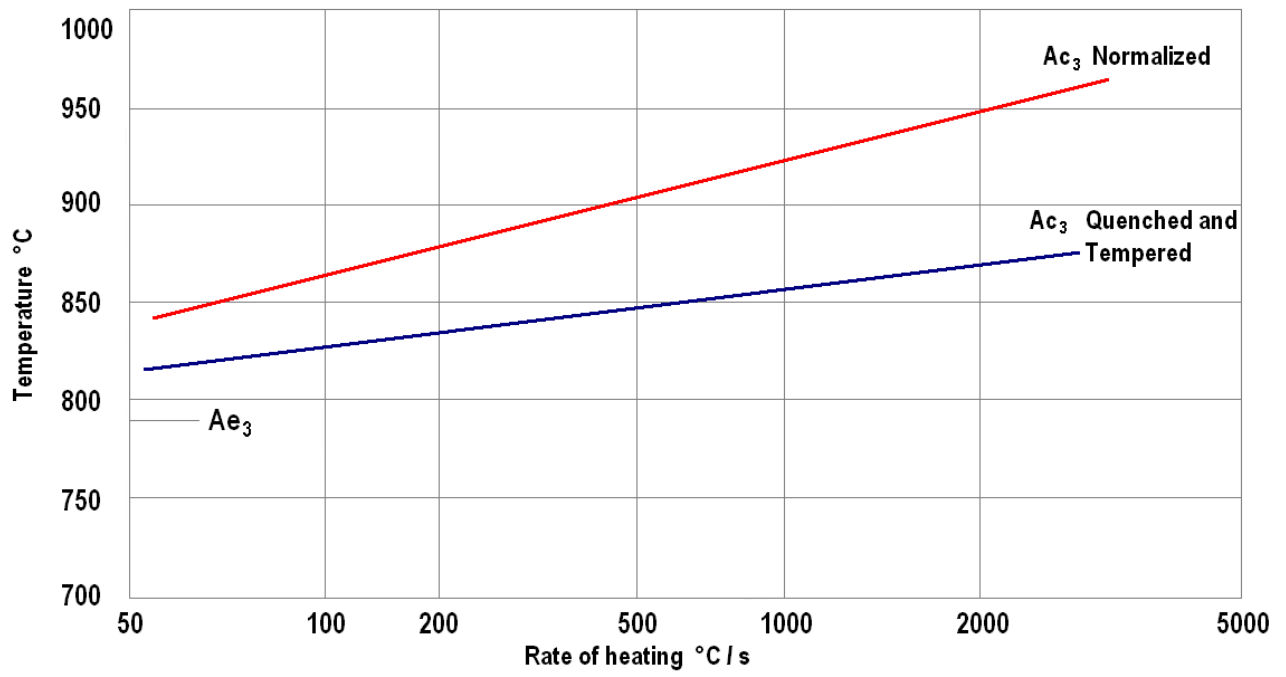
No indications from reference standards; use C40E – C45E values as reference

Jominy test HRC

mm distance from quenched end

	1.5	3	5	7	9	11	13	15	20	25	30	35	40	45	50	Min. surface hardness after hardening and stress-relieving	
min	No indications from reference standards; use C 45E values as reference															HRC	54
max																	

EUROPE	ITALY	CHINA	GERMANY	FRANCE	U.K.	RUSSIA	USA
EN	UNI	GB	DIN	AFNOR	B.S.	GOST	AISI/SAE
	C43						



C43 steel. Complete austenitization during continuous heating cycles used in induction heating.