

Quality	Cf 53	Steel for Chromium Plating	<i>Technical card</i>
According to standards	DIN 17212: 1972		Lucefin Group
Number	1.1213		rev. 2018

Chemical composition

C%	Si%	Mn%	P% max	S% max	
0,50-0,57	0,15-0,35	0,40-0,70	0,025	0,035	Product deviations are allowed
± 0.03	± 0.03	± 0.04	+ 0.005	+ 0.005	

Temperature °C

Hot-forming	Normalizing +N	Quenching +Q	Quenching +Q	Tempering +T	Stress-relieving +SR		
1050-850	860 air	830 water	860 oil or polymer	550-660 air	180		
Soft annealing +A	Isothermal annealing +I	Natural state +U	End quench hardenability test	Pre-heating welding	Stress-relieving after welding		
700 air (HB max 223)	820 furnace cooling to 660, then air (HB 180-230)	- (HB max 260)	-	not recommended			
				Ac1	Ac3	Ms	Mf
				730	765	320	100

Mechanical properties

Hot-rolled mechanical properties in **normalized** condition DIN 17212: 1972

test blanks Testing at room temperature (longitudinal)

diameter mm	R	Rp 0.2	A%	Z%	Kv	HB
from to	N/mm ²	N/mm ² min.	min.	min.	J min.	for information
16 100	610-760	340	16	--	-	183-226

Hot-rolled mechanical properties in **quenched and tempered** condition DIN 17212: 1972

test blanks Testing at room temperature (longitudinal)

diameter mm	R	Rp 0.2	A%	Z%	Kv	HB
from to	N/mm ²	N/mm ² min	min.	min.	J min	for information
16	740-880	510	12	25	24 ¹⁾	224-263
16 40	690-830	430	14	35	24 ¹⁾	210-249
40 100	640-780	400	15	40	24 ¹⁾	198-232

¹⁾ Interpolation DVM 21 J

Cold-drawn +QT+C 070M55 BS 970 pt.3: 1991. Use only as reference

size mm Testing at room temperature (longitudinal)

from to	R	Rp 0.2	A%	Z%	Kv	HB
	N/mm ²	N/mm ² min	min	min.	J min	for information
13 29	700-850	475	10	-	-	201-255
29 100	700-850	435	10	-	-	201-255

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	No indications from reference standards; use C 50E values as reference															HRC	57
max																	

Table of tempering values obtained at room temperature on rounds of Ø 40 mm after quenching at 860 °C in oil

HB		286	268	240	213
HRC		30	27	-	-
R	N/mm ²	950	890	800	700
Rp 0.2	N/mm ²	650	570	490	390
A	%	14	17	18	19
Z	%	30	42	48	50
Rinv.	°C	400	475	550	650

EUROPE	ITALY	CHINA	GERMANY	FRANCE	U.K.	RUSSIA	USA
EN	UNI	GB	DIN	AFNOR	B.S.	GOST	AISI/SAE
C53	C53		Cf53	XC48 TS	070M55		1050