

Acciaio da costruzione • EN 10084

RIFERIMENTI NORMATIVI

UNI	AFNOR	DIN-W.Nr.	BS	AISI-SAE
31CrV3	42CD4	1.7225	708A42	-

COMPOSIZIONE CHIMICA INDICATIVA [%]

Elemento	C	Mn	Si	Cr	Ni	Mo	Se P
Intervallo [%]	0.36 – 0.47	0.56 – 0.94	≤ 0.43	0.85 – 1.25	-	0.12 – 0.33	≤ 0.040

LAVORAZIONE A CALDO E TRATTAMENTO TERMICO

Punti critici: Ac1 730°C, Ac3 780°C, Ms 360°C

Operazione	Fucinatura	Normalizzazione	Ricottura subcritica	Ric. completa	Tempra	Rinvenimento
Parametro	1100 - 850	850 - 880	680 - 720	830 - 850	850 - 880	540 - 680

CARATTERISTICHE MECCANICHE

Stato	Saggio Ø [mm]	Re min. [N/mm²]	Rm [N/mm²]	A min. [%]	KCU min. [J]	Durezze HB allo stato
Temprato e disteso	≤16	900	1100 - 1300	10	30	Ricottura subcritica ≤ 255
	≤40	750	1000 – 1200	11	35	Ricottura completa ≤ 240
	≤100	635	900 - 1100	12	35	Ricottura isometrica 185 - 235

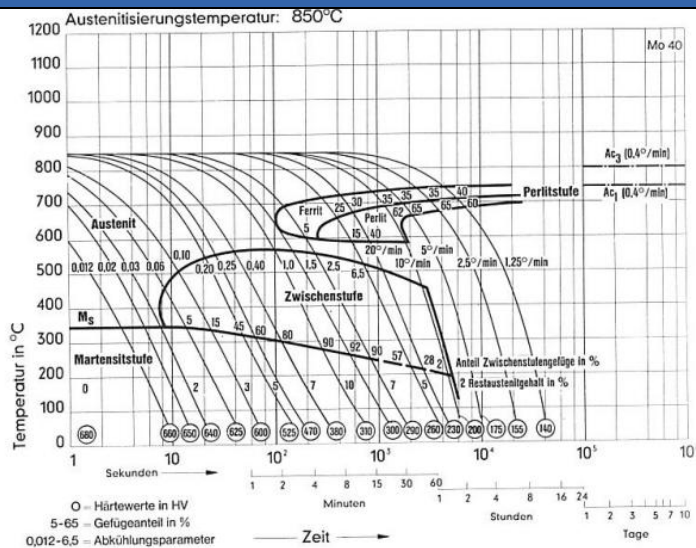
IMPIEGHI. Tra le applicazioni più comuni ci sono alberi, ingranaggi, bielle, assali per macchine industriali e agricole, e attrezzature per il movimento terra.

JOMINY

Distanza dall'estremità temperata mm	Durezza rockwell	
	HRc min	HRc max
1.5	53	61
3	53	61
5	52	61
7	51	60
9	49	60
11	43	59
13	40	59
15	37	58
20	34	56
25	32	53
30	31	51
35	30	48
40	30	47



CURVA CCT



CURVA TTT

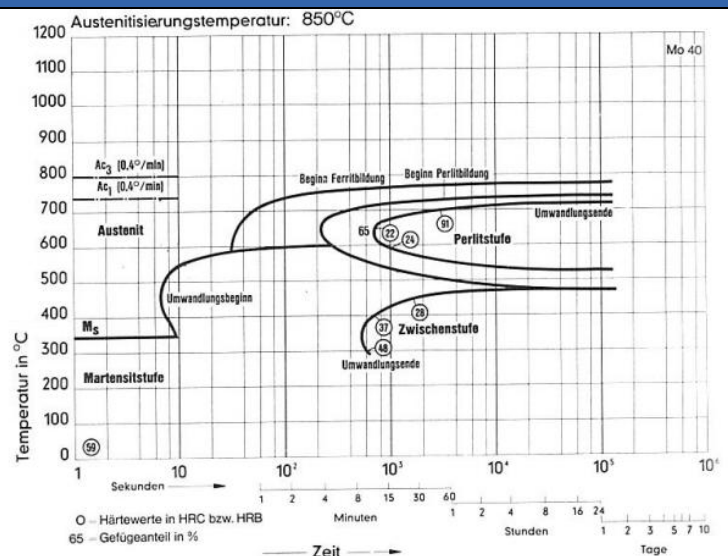


DIAGRAMMA DI RINVENIMENTO

Note operative:

Diametro: 11 mm;

Tempra: 850 °C in olio;

Rinvenimento per 2 ore;

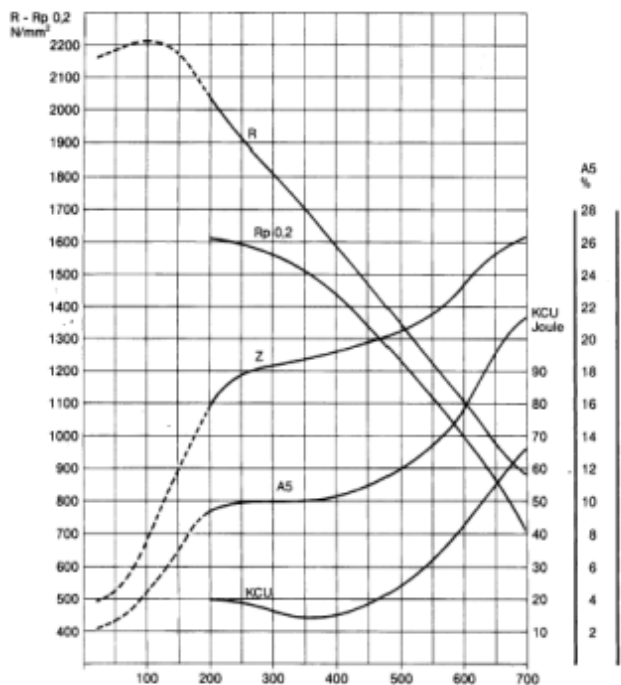
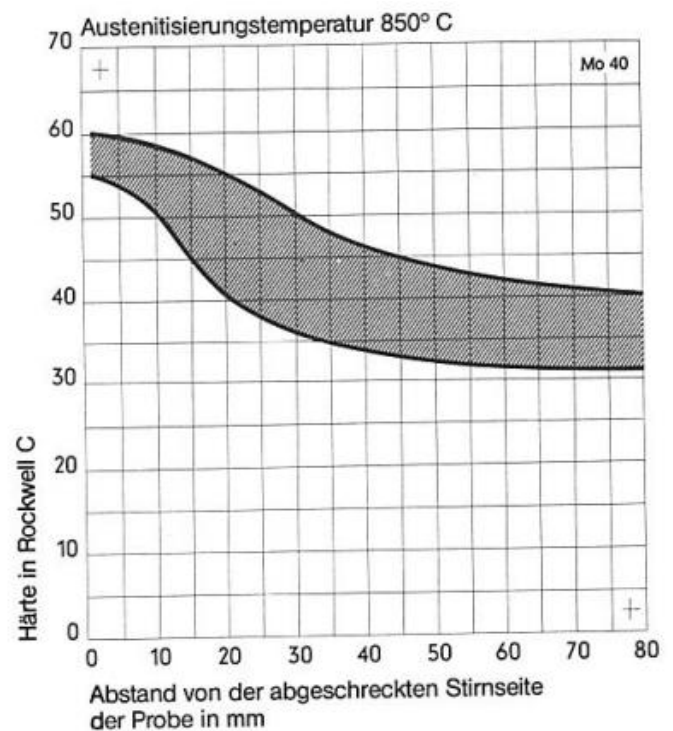


DIAGRAMMA DUREZZA



Carbon steel • EN 10083-2

REFERENCES

UNI	AFNOR	DIN-W.Nr.	BS	AISI-SAE
31CrV3	42CD4	1.7225	708A42	-

CHEMICAL COMPOSITION

Element	C	Mn	Si	Cr	Ni	Mo	S
Interval [%]	0.36 – 0.47	0.56 – 0.94	≤ 0.43	0.85 – 1.25	-	0.12 – 0.33	≤ 0.040

HOT WORKING AND HEAT TREATMENT

Critical points: Ac1 730°C, Ac3 780°C, Ms 360°C

Operation	Forging	Normalizing	Subcritical annealing	Complete annealing	Tempering	Quenching
Parameter	1100 - 850	850 - 880	680 - 720	830 - 850	850 - 880	540 - 680

MECHANICAL PROPERTIES

Status	Size Ø [mm]	Re min. [N/mm²]	Rm [N/mm²]	E min. [%]	KCU min. [J]	HB hardness
Tempered and stretched	≤16	900	1100 - 1300	10	30	Subcritical annealing ≤ 255
	≤40	750	1000 – 1200	11	35	Complete annealing ≤ 240
	≤100	635	900 - 1100	12	35	Isometric annealing 185 - 235

USES Common applications include shafts, gears, connecting rods, axles for industrial and agricultural machinery, and earthmoving equipment.

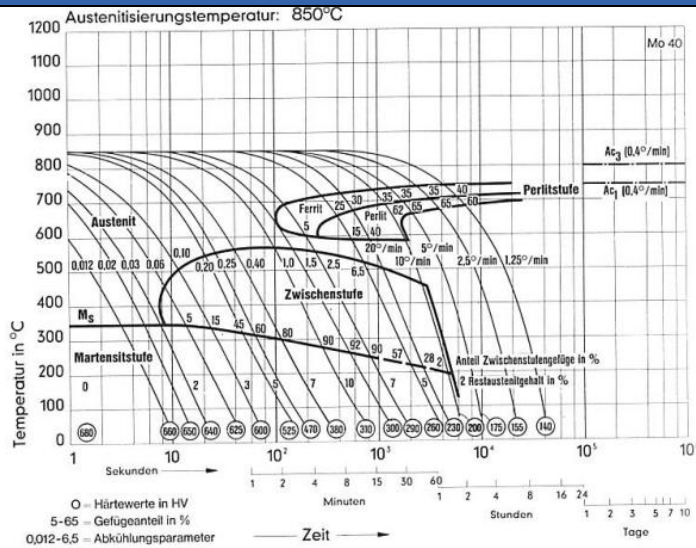
TEMPERING DIAGRAM

JOMINY

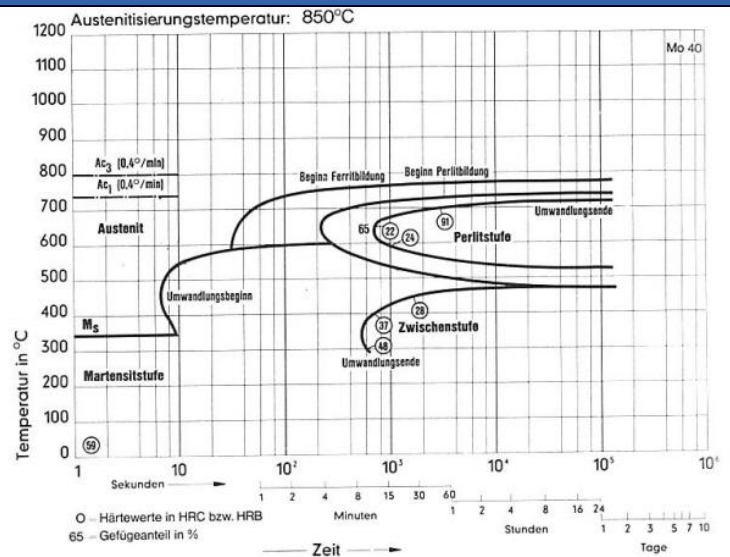
Depth of quenching	Rockwell hardness	
	HRc min	HRc max
mm		
1.5	53	61
3	53	61
5	52	61
7	51	60
9	49	60
11	43	59
13	40	59
15	37	58
20	34	56
25	32	53
30	31	51
35	30	48
40	30	47



CCT TREND



TTT TREND



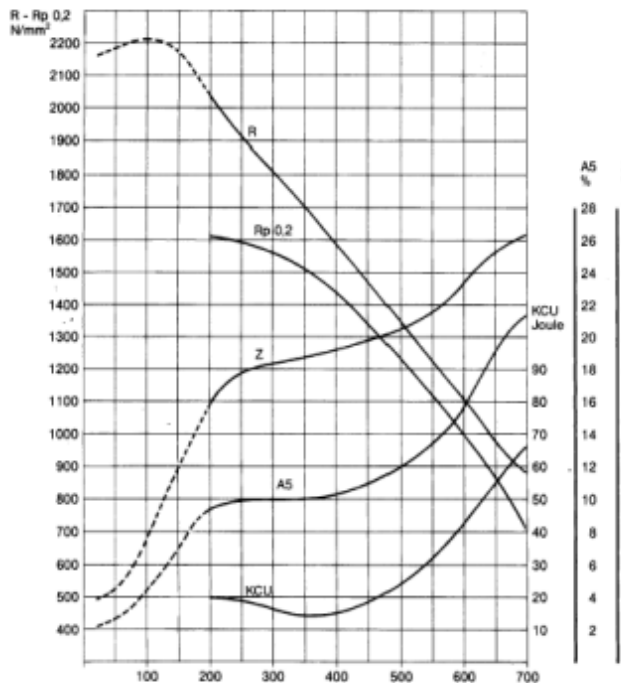
TEMPERING DIAGRAM

Operative notes:

Diameter: 11 mm;

Tempering: 850 °C in oil;

Quenching for 2 hours;



HARDENING DIAGRAM

