FORMAX 8CrB5

Direct quenching of hot forged parts

APPLICATION

- Replacing Q&T steels for **hot forged parts**.
- Components of small or medium thickness **with quenching and tempering characteristics**: suspension arms, steering housings, steering ball studs, connecting rods, camshafts...

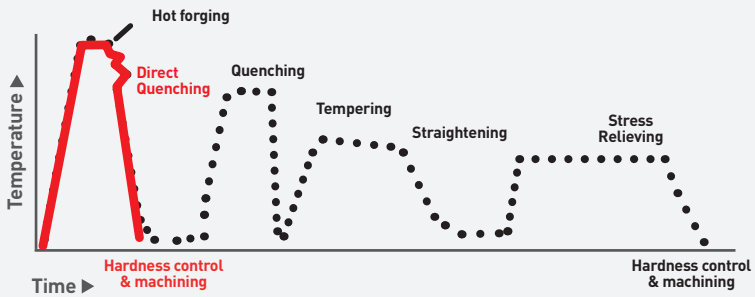
ADVANTAGES

Elimination of process steps

The required mechanical properties are obtained with a direct quenching after forging

Reduction of manufacturing costs

Increased productivity, advantage of the forging heat, lower risk of quenching cracks



APPLIED TECHNOLOGY

- Application of metallurgical knowledge to ensure the required characteristics with a direct quenching:
  - Good toughness and ductility associated with **low carbon content martensite**.
  - Addition of elements that **increase the hardenability** as Mn and Cr, in addition to an adequate level of active B.

FORMAX 8CrB5

DENOMINATION (SIDENOR OWN PRODUCT DEVELOPMENT)

EN	DIN	AFNOR	AISI / SAE	JIS
8CrB5				

CHEMICAL COMPOSITION

GRADE	% wt	C	Mn	Si	S	Cr	Al	Bactive	Others*
8CrB5	min.	0,04	0,70	0,15	0,015	1,00	0,015	0,0015	Bi, Ca...
	max.	0,10	1,10	0,30	0,070	1,40	0,030	0,0030	

* Optional additions for machinability improvement: MECAMAX® technologies.

PRODUCTION ROUTE / DELIVERY CONDITION

Billet from continuous casting.

ø (mm)	Finishing	Heat treatment
Bars 9 - 100	Rolled	As rolled

MECHANICAL PROPERTIES

Water Quenched	Tempering T (ºC)	UTS (MPa)	RoA (%)
Direct quenching	-	1.000 – 1.050	61
Direct quenching and tempering	500	900	65
	600	850	66

HARDENABILITY

Jominy	$J_{1.5}$	J_5	J_{10}	J_{15}
Hardness (HV)	340	335	255	230

CCT CURVE