

Quality E360 (Fe 690 - C50E - C55E - C60E)



According to Standard EN 10025 - 2 : 2004

Number 1.0070

Comparable Standards	German DIN	France AFNOR	Spain UNE	China GB	U.K. B.S.	Russia GOST	USA AISI - SAE	Japan JIS
----------------------	------------	--------------	-----------	----------	-----------	-------------	----------------	-----------

St70-2	A70 - 2	A 690			E360			
--------	---------	-------	--	--	------	--	--	--

Chemical Analysis	C% max	Si% max	Mn% max	P% max	S% max	N% max	Cu% max
-------------------	--------	---------	---------	--------	--------	--------	---------

			0.55	0.55	0.014		
--	--	--	------	------	-------	--	--

Hot Work and Heat Treatment Temperatures

Temperature °C

Hot - Forming	Supply State +U	Soft Annealing +A	Isothermal Annealing +I	Normalising & Tempering	Quenching & Tempering QT	Stress-relieving +SR
1050 - 850		690 air	790 furnace cooling to 660 then air	825 - 885	830 water	50° under the temperature of tempering
				air	850 oil, polymer	

Mechanical Properties at Room Temperature

Minimum Yield Strength R^{eH}

Mpa

Nominal Thickness mm

≤ 16	> 16	> 40	> 63	> 80	> 100	> 150	> 200
	≤ 40	≤ 63	≤ 80	≤ 100	≤ 150	≤ 200	≤ 250
360	355	345	335	325	305	295	285

Tensile Strength R

Mpa

Nominal Thickness mm

< 3	> 3	> 100	> 150
	≤ 100	≤ 150	≤ 250

690 to 900	670 to 830	650 to 830	640 to 830
------------	------------	------------	------------

Minimum percentage elongation after fracture %

L = 80 mm. Normal thickness mm

L = 5.65 √S₀ Nominal thickness mm

	≤ 1	> 1	> 1.5	> 2	> 2.5	< 3	≤ 40	> 40	> 63	> 100	> 150
		≤ 1.5	≤ 2	≤ 2.5			≤ 63	≤ 100	≤ 150	≤ 250	
l	4	5	6	7	8	11	10	9	8	7	7
t	3	4	5	6	7	10	9	8	7	7	8