



E STEEL SDN BHD (891338-A)

NO 3, Lorong Sungai Puloh 7/KU 6,
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2083 Martensitic STAINLESS STEEL, SUS420, AISI420

1.2083 is Martensitic Stainless Chrome Plastic Mold Steel. Din 1.2083 is a chromium content up to 13% of the plastic die steel. 1.2083 mold steel has good polishing and excellent wear resistance, is often used to prevent acid plastic mold.

1.2083 stainless steel is generally supplied annealed condition with a hardness < 230HB. It can also be delivered ESR and quenched and tempered to 320 HB.

Main characteristics of DIN 1.2083 are :

- a good atmospheric corrosion resistance,
- an excellent polishability,
- a good machinability in annealed condition,
- a high hardenability
- a good wear resistance

Chemical Composition

DIN ISO 4957	C		Mn	P	S	Si	Cr	
1.2083 / X40Cr14	0.36	0.42	max 1.0	0.03	0.03	max 1.0	12.50	14.50

1.2083 Steel Equivalent and Related Specifications

USA , AISI	German, DIN	Japan, JIS	China	ISO
ASTM A681	DIN 17350	JIS G4403	GB/T 9943	ISO 4957
420 Modified	1.2083/X42Cr13	SUS420	4Cr13	X42Cr13

Characteristics

Corrosion-resistant plastic mould steel for processing chemically aggressive injection-moulding compounds, with good polishing and machining properties.

Application of 2083, sus 420, aisi 420 This steel offers very good polishing properties. Mainly used in plastic mould requiring very fine (mirror) polishing, and also for fine cutlery, surgery cutting tools and razor blades.



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Heat Treatment of 1.2083 (SUS420)

It is recommended to use vacuum furnaces or furnaces with controlled protective gas atmosphere in order to protect the steel against oxidation and decarburization.

- Austenitizing in a temperature range from 1000°C to 1050°C (not higher in order to avoid retained austenite) followed by oil quenching.
- Heating must be performed very slowly to minimize distortion.

Quenching has to be performed in order to get the best microstructure, tool performance and minimum distortion. A slow quenching rate is recommended to minimize distortion but the quenching rate has to be sufficient to avoid the formation of undesirable components like bainite or ferrite / pearlite.

Tempering must be carried out immediately after quenching at a temperature in accordance with the mechanical properties required.

- For high hardness (52-56HRC), temper at temperature of 200°C for 1.5 to 2 hours.
- For better toughness (low hardness),