

Westgate

420

(UNS42000) W. Nr. 1.4021

Chemical composition	C	Mn	Si	P	S	Cr	Mo	Ni	N
% Present (Max)	0.15	1.00	1.00	0.04	0.03 0	12.0 0- 14.0 0	-	-	-

Grade 420 stainless steel is a higher carbon version of 410; like most carbon and low alloy steels it can be hardened by heat treatment. It contains a minimum of 12 per cent chromium, just sufficient to give corrosion resistant properties. 420 has good ductility in the annealed condition but is capable of being hardened up to Rockwell Hardness 50HRC, the highest hardness of the 12 per cent chromium grades. Its best corrosion resistance is achieved when hardened and surface ground or polished. Related grades to 420 are high carbon high hardness martensitic stainless steels such as the 440 series (see the Atlas Datasheet on this series of grades) and also variations to 420 containing molybdenum (for increased corrosion resistance and mechanical properties), sulphur (for increased machinability) or vanadium (for higher hardness). A slightly higher carbon version of 420 is the non-standard grade 420C. Martensitic stainless steels are optimised for high hardness, and other properties are to some degree compromised. Fabrication must allow for poor weldability and usually also include a final harden and temper heat treatment. Corrosion resistance is lower than the common austenitic grades, and their useful operating temperature range is limited by their loss of ductility at sub-zero temperatures and loss of strength by over-tempering at elevated temperatures.

Note: Values are in accordance with EN 10088 specifications. Actual mill certs available upon request.



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