

CRAFTSMAN CRIBSHEET

Quick Cross-Reference for Foreign Designations for Stainless Steels

Basing your material decisions for the contract for human safety-critical parts on information provided on an internet page with unknown credibility is not likely to pass quality system, nor legal system muster. Our customers deserve better.

This has been especially troublesome recently when sourcing stainless steel for Swiss machining applications. Swiss quality requires adherence to very strict standards and tight tolerances for straightness, dimensional tolerance, surface finish, internal soundness and consistency. Swiss quality stainless steel bar products have become very difficult to obtain in North America, due to a fatality at a leading supplier in Europe. With that supplier out of production, and ongoing uncertainty of supply for nickel and other materials due to the Russia-Ukraine crisis, it has been

difficult to source stainless steels from our customary suppliers. This has made finding stainless steel suitable for our shops' demanding Swiss precision applications even more difficult.

Reshoring initiatives also are making the jobs of our engineers and estimators more difficult as the prints returning for quote and production often have foreign — not U.S. — grade designations and identifiers. This table provides a quick reference for some of the most common stainless steel grades — showing Chinese, Japanese and European/German Werkstoffe numbers and grade designations. This table is not complete, but an example of the power of the PMPA Nominal Steel Grade Translator available on pmpa.org under Member Links. ☎

ASTM/SAE/AISI		China	German		Japan
Designation	Description	Designation	Werkstoffe#	Designation	Designation
303	Stainless	1Cr18Ni9	1.4305	X8CrNiS18 9	
304	Stainless	0Cr18Ni9	1.4301	X5CrNi18 10	SUS304
304L	Stainless	00Cr19Ni10	1.4307	X2CrNi18-9	
316	Stainless	0Cr17Ni12Mo2	1.4401	X5CrNiMo17-12-2	SUS316
316L	Stainless	00Cr17Ni14Mo2	1.4404	X5CrNiMo17-12-2	
410	Stainless	1Cr13	1.4006	X12Cr13	SUS410
416	Stainless	1Cr13	1.4005	X12CrS13	SUS54B
430F	Stainless		1.4105	X6CrMoS17	SUS430F
431	Stainless	Y1Cr17	1.4057	X17CrNi16-2	SUS431