

Technical Data

KaiserSelect® 2111-T8

ALLOY DESCRIPTION

2111-T8 is a lead (Pb) free¹, RoHS compliant free machining alloy and temper combination that compares favorably with 2011-T3 and free cutting brass. 2111 is the alloy of choice when good strength and high machining rates are desired along with the need to eliminate Pb from the finished part or from the overall manufacturing value stream. It can be machined to very close tolerances and produces excellent machined surface finishes.

¹ No intentional Pb additions. Maximum Pb=0.05%

APPLICABLE SPECIFICATIONS

Cold Finished
ASTM B211

CHEMICAL COMPOSITION LIMITS

Weight %	Si	Fe	Cu	Zn	Bi	Sn	Others	
Minimum			5.0		0.20	0.10	Each	Other
Maximum	0.40	0.7	6.0	0.30	0.8	0.50	0.05	0.15

TYPICAL MECHANICAL AND PHYSICAL PROPERTIES

Temper	Tensile (.500" Dia. Specimen)					Hardness Brinell 500 kg 10 mm	Density		Melting Range	
	Ultimate		Yield		Elongation (in 2" or 4D)		English	Metric	English	Metric
	KSI	MPa	KSI	MPa						
T8 0.500" thru 3.500"	57	393	43	296	12	100	0.102 lbs/in ³	2.82 Mg/m ³	1005° F - 1180° F	541° C - 638° C

COMPARATIVE CHARACTERISTICS

Temper	Corrosion Resistance ¹	Cold Workability ²	Machinability ²	Anodize Response ²	Brazeability ³	Weldability ³		
T8	D	D	A	C	D	Gas	Arc	Spot
						D	D	D

¹ Ratings A through E are relative ratings in decreasing order of merit, based on exposures to sodium chloride solution by intermittent spraying or immersion. Alloys with A and B ratings can be used in industrial and seacoast atmospheres without protection. Alloys with C, D and E ratings generally should be protected at least on faying surfaces.

² Ratings A through D for Workability (cold), A through E for Machinability and A through C for Anodize Response, are relative ratings in decreasing order of merit.

³ Ratings A through D for Weldability and Brazeability are relative ratings defined as follows:

A= Generally weldable by all commercial procedures and methods.

B= Weldable with special techniques or for specific applications that justify preliminary trials or testing to develop welding procedure and weld performance.

C= Limited weldability because of crack sensitivity or loss in resistance to corrosion and mechanical properties.

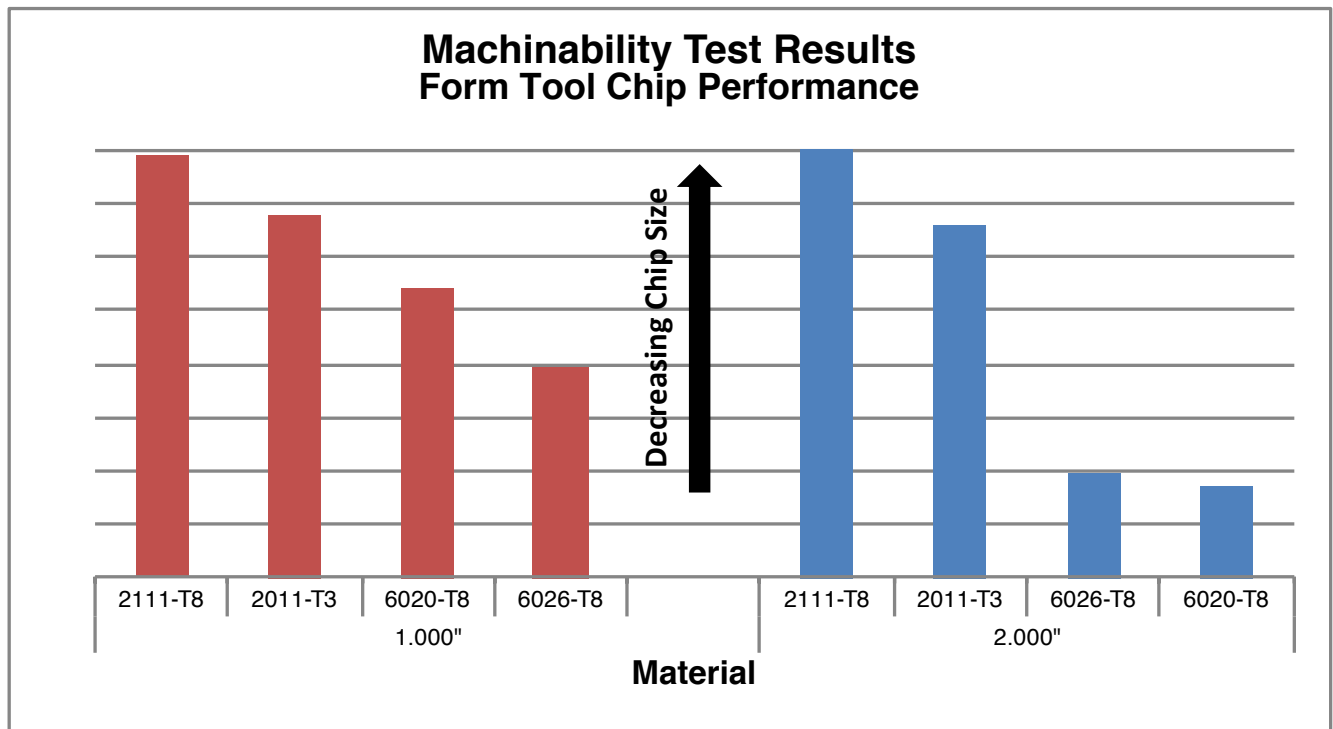
D= No commonly used welding methods have been developed.

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MACHINABILITY COMPARISON



In head-to-head machinability testing 2111-T8, individual tool chip size performed equivalent or superior to the currently available competing aluminum free machining alloys.

When machined using industry accepted speeds, feeds, tooling and coolant practices 2111-T8 will provide comparable machinability to 2011-T3 while offering the added benefit of being lead (Pb) free¹

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