BASE ALLOYS	FILLER ALLOYS	1060 1070 1080 1350	1100	2014 2036	2219 2519	3003 ALCLAD 3003	3004	5005 5050	5052 5652	5083 5456	5086 5056	511.0 512.0 513.0 514.0 535.0 5154 5254	5454 5754	6005 6005A 6063 6082 6101 6151 6201 6351 6951	6061 6070	7005 7021 7039 7046 7146 710.0 711.0	413.0 443.0 444.0 356.0 A356.0 A357.0 359.0	319.0 333.0 354.0 355.0 C355.0 380.0	
Characteristics		W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	W S D C T M	
319.0 333.0 354.0 355.0 C355.0 380.0	2319			B A A A A A	B A A A A A													B A A A A A	2319
	4043/4047	B A A A A A	B A A A A A	C C B C A A	C C B C A A	B A A A A A	B B A A A A	B B A A A A	A A A A A A	A A A A A A	A A A A	A A A A A	A A A A A A	B B A A A A	B B A A A A	B B A A A A	B B A A A A	B B A A A A	4043/4047
413.0 443.0 444.0 356.0 A356.0 A357.0 359.0	4043/4047	A A A A A A	A A A A A A	B B A A A A	B B A A A A	A A A A A A	A A A A A A	A A A A A A	A B A A A A					A B A A A A	A B A A A A	A B A A A A	A B A A A A	4043/4047	
7005 7021 7039 7046 7146 710.0 711.0	4043/4047	A A C A A	A A C A A	B B A A A	B B A A A	A B C A A	A D C B A	A B C B A	B D C B A					A D C B A	A D C B A	B D C B A	4043/4047		
	5087	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5087		
	5183	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5183		
	5356	B A A A A	B A A A A			B A A A A	B B A A A	B A A A A	A B A A A	A B A A A	A B A A A	A B A A A	A B A A A	A B A A A	A B A A A	A B A A A	5356		
	5554						C C A A A A	C A A A A A	B C A A A	B C A A A	B C A A A	B C A A A	B C A A A	B C A A A	B C A A A	B C A A A	5554		
	5556	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5556		
	5556A	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5556A		
	5754						C C A A A A	C A A A A A	B C A A A	B C A A A	B C A A A	B C A A A	B C A A A	B C A A A	B C A A A	B C A A A	5754		
6061 6070	4043/4047	A A C A A	A A C A A	B B A A A	B B A A A	A B C A A	A D C A A	A B C A A	A D C A A					A C B A A	A C B A A	4043/4047			
	4643 (1)													A C B A A	A C B A A	4643 (1)			
	5087	B A B A	B A B A			B A B A	B A B A	B A B A	B A B C B	A A B A A	A A B A A	B A B C B	B A B C A	B A A C A	B A A C B	5087			
	5183	B A B A	B A B A			B A B A	B A B A	B A B A	B A B C B	A A B A A	A A B A A	B A B C B	B A B C A	B A A C A	B A A C B	5183			
	5356	B A A A	B A A A			B A A A	B B A A	B A A A	B B A C A	A B A A A	A B A A A	B B A C A	B B A C A	B A A C A	B B A C A	5356			
	5554								C C A B A B	B C A A A	B C A A A	C C A B B	C C A A A A	C B A B B A	C B A B B B	5554			
	5556	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	B A B C B	A A B A A	A A B A A	B A B C B	B A B C A	B A A C A	B A A C B	5556			
	5556A	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	B A B C B	A A B A A	A A B A A	B A B C B	B A B C A	B A A C A	B A A C B	5556A			
	5754								C C A B A B	B A A A A	B A A A A	C C A A B	C A A A A A	C B A B B A	C B A B B B	5754			
6005, 6005A, 6063, 6082 6101, 6151, 6201,6351, 6951	4043/4047	A A C A A	A A C A A	B B A A A	B B A A A	A B C A A	A D C A A	A B C A A	A D C A A	A B C A	A B C A	A B C A	A B C B A	A C B A A	4043/4047				
	4643 (1)													A C B A A	4643 (1)				
	5087	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	B A B C B	A A B A A	A A B A A	B A B C A	B A B C A	B A A C A	5087				
	5183	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	B A B C B	A A B A A	A A B A A	B A B C A	B A B C A	B A A C A	5183				
	5356	B A A A A	B A A A A			B A A A A	B B A A A	B A A A A	B B A C A	A A A A A	A B A A A	B A A C A	B A A C A	B A A C A	5356				
	5554								C C A B A B	B A A A A	B A A A A	C C A A B	C A A A A A	C B A B B A	5554				
	5556	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	B A B C B	A A B A A	A A B A A	B A B C A	B A B C A	B A A C A	5556				
	5556A	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	B A B C B	A A B A A	A A B A A	B A B C A	B A B C A	B A A C A	5556A				
	5754								C C A B A B	B A A A A	B A A A A	C C A A B	C A A A A A	C B A B B A	5754				
5454 5754	5087	B A B B A	B A B B A			B A B B A	B A B B A	B A B B A	A A A B A	A A B B A	A A B B A	A A B B A	A A B B A	5087				
	5183	B A B B A	B A B B A			B A B B A	B A B B A	B A B B A	A A A B A	A A B B A	A A B B A	A A B B A	A A B B A	5183				
	5356	B A A B A	B A A B A			B A A B A	B B A B A	B A A B A	A B A B A	A B A B A	A B A B A	A B A B A	A B A B A	5356				
	5554	C A A A A	C A A A A			C A A A A	C C A A A	C A A A A	C C A A A	B C A A A	B C A A A	B C A A A	B C A A A	5554				
	5556	B A B B A	B A B B A			B A B B A	B A B B A	B A B B A	A A B B A	A A B B A	A A B B A	A A B B A	A A B B A	5556				
	5556A	B A B B A	B A B B A			B A B B A	B A B B A	B A B B A	A A B B A	A A B B A	A A B B A	A A B B A	A A B B A	5556A				
	5754	C A A A A	C A A A A			C A A A A	C C A A A	C A A A A	C C A A A	B C A A A	B C A A A	B C A A A	B C A A A	5754				
511.0, 512.0, 513.0, 514.0, 535.0 5154, 5254	5087	B A B B A	B A B B A			B A B B A	B A B B A	B A B B A	A A B B B	A A B A A	A A B B B	A A B A A	A A B B B	5087					
	5183	B A B B A	B A B B A			B A B B A	B A B B A	B A B B A	A A B B B	A A B A A	A A B B B	A A B A A	A A B B B	5183					
	5356	B A A B A	B A A B A			B A A B A	B B A B A	B A A B A	A B A B A	A B A A A	A B A B A	A B A A A	A B A B A	5356					
	5554	C A A A A	C A A A A			C A A A A	C C A A A	C A A A A	C C A A B	B C A A A	B C A A B	B C A A A	B C A A B	5554					
	5556	B A B B A	B A B B A			B A B B A	B A B B A	B A B B A	A A B B B	A A B A A	A A B B B	A A B A A	A A B B B	5556					
	5556A	B A B B A	B A B B A			B A B B A	B A B B A	B A B B A	A A B B B	A A B A A	A A B B B	A A B A A	A A B B B	5556A					
	5754	C A A A A	C A A A A			C A A A A	C C A A A	C A A A A	C C A A B	B C A A A	B C A A A	B C A A A	B C A A B	5754					
5086, 5056	5087	A A B A A	A A B A A			A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5087					
	5183	A A B A A	A A B A A			A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5183					
	5356	A A A A A	A A A A A			A A A A A	A B A A A	A A A A A	A B A A A	A B A A A	A B A A A	A B A A A	A B A A A	5356					
	5554								C C A A A					5554					
	5556	A A B A A	A A B A A			A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5556					
	5556A	A A B A A	A A B A A			A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5556A					
	5754								C C A A A					5754					
5083, 5456	5087	A A B A A	A A B A A			A A B A A	A A B A A	A A B A A	A A B A A	A (Z) B A A	5087								
	5183	A A B A A	A A B A A			A A B A A	A A B A A	A A B A A	A A B A A	A (Z) B A A	5183								
	5356	A A A A A	A A A A A			A A A A A	A B A A A	A A A A A	A B A A A	A A A A	5356								
	5554								C C A A A	5554									
	5556	A A B A A	A A B A A			A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5556								
	5556A	A A B A A	A A B A A			A A B A A	A A B A A	A A B A A	A A B A A	A A B A A	5556A								
	5754								C C A A A	5754									
5052, 5652	4043/4047	A B C A A	A B C A A			A B C A A	A B C A A	A B C A A	A D C B A	4043/4047									
	5087	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	A A B C B	5087									
	5183	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	A A B C B	5183									
	5356	B A A A A	B A A A A			B A A A A	B A A A A	B A A A A	A B A C A	5356									
	5554								C C A A A B	5554									
	5556	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	A A B C B	5556									
	5556A	B A B A A	B A B A A			B A B A A	B A B A A	B A B A A	A A B C B	5556A									
	5754								C C A A A B	5754									
5005, 5050	1100	C B A A A A	C B A A A A			C C A A A A		B A A A A	1100										
	4043/4047	A A C A A	A A C A A			A B C A A	A B C A A	A B C A A	4043/4047										
	5087	C A B B	C A B B			C A B C B	B A B A A	B A C A B	5087										
	5183	C A B B	C A B B			C A B C B	B A B A A	B A C A B	5183										
	5356	C A B B	C A B B			C A B C B	B A A A A	B A B A A	5356										
	5556	C A B B	C A B B			C A B C B	B A B A A	B A C A B	5556										
	5556A	C A B B	C A B B			C A B C B	B A B A A	B A C A B	5556A										
3004	1100	D B A A A A	D B A A A A			C C A A A A		1100											
	4043/4047	A A C A A	A A C A A			A B C A A	A B D A A	4043/4047											
	5087	C A B B	C A B B			C B C A	B A C C A	5087											
	5183	C A B B	C A B B			C B C A	B A C C A	5183											
	5356	C A B B	C A B B			C A B C A	B B B C A	5356											
	5554						C C A B A A	5554											
	5556	C A B B	C A B B			C B C A	B A C C A	5556											
	5556A	C A B B	C A B B			C B C A	B A C C A	5556A											
	5754						C C A B A A	5754											
3003 ALCLAD 3003	1100	B B A A A A	B B A A A A			B B A A A A	1100												
	4043/4047	A B B A A	A A B A A	B A A A A	B A A A A	A A B A A	4043/4047												
2219 2519	2319			B A A A A A	A A A A A A	2319													
	4043/4047	B A A A A	B A A A A	B C B C A	B C B C A	4043/4047													
2014 2036	2319			C A A A A A	2319														
	4043/4047	B A A A A	B A A A A	B C B C A	4043/4047														
1100	1100	B B A A A A	B B A A A A	1100															
	4043/4047	A A B A A	A A B A A	4043/4047															
1060 1070 1080 1350	1100	B B A A A B	1100																
	4043/4047	A A B A A	4043/4047																

How to Use
1. Select base alloys to be joined.
2. Find the block where the column and row intersect.
3. This block contains horizontal rows of letters (A, B, C or D) representative of the alloy directly across from them in the filler alloy box at the end of each row. The letters in each line give the A-to-D rating of the characteristics listed at the top of each column – W, S, D, C, T and M (see Legend at right for explanation of each letter).
4. Analyze the weld characteristics afforded by each filler alloy. You will find that you can "trade off" one characteristic for another until you find the filler that best meets your needs.

Example
When joining base alloys 3003 and 1100, find the intersecting block. Note that filler alloy 1100 provides an (A) rating for ductility (D), corrosion resistance (C), performance at elevated temperatures (T), and color match after anodizing (M), and a (B) rating for ease of welding (W) and strength (S). However, if ease of welding and shear strength are important, and ductility and color match can be sacrificed slightly, then filler alloy 4043 can be used.

SYMBOL	CHARCTERISTIC
W	Propensity for weld cracking. "A" indicates little tendency for weld cracking. "D" indicates severe tendency for weld cracking
S	Shear strength - applicable particularly to fillet welds.
D	Ductility of the finished weld
C	Resistance to corrosion in ambient temperature fresh or salt water
T	Recommended for service at Suitability for long term exposure to temperatures above 150 degrees F
M	Color match between the weld and the parent material after anodizing
A, B, C, & D are relative ratings in decreasing order of merit. The ratings have relative meaning only within a given block.	

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