TALARC SELECTION CHARTS

Wire on **DIY Sized Spools**
Filler Metals for **AS1554.1 Structural Steels**
Filler Metals for **AS1554.4 Q&T Steels**
Filler Metals for **Low Alloy Steels**
Filler Metals for **Stainless Steels**
Filler Metals for **Dissimilar Stainless Steels**
Filler Metals for **Copper Alloys**
MMA Welding Electrode Selction Chart for **High Ni Alloys**
T**IG Rod** Selction Chart for **High Ni Alloys**
GMAW Wire Selction Chart for **High Ni Alloys**
Consumables for **Hardfacing and Repair/Maintenance**

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TALARC Range of Wires on DIY sized spools

Material Type	Gas Shielded		No gas	
	100mm spool	200mm spool	100mm spool	200mm spool
Mild Steel	TALWELD S6		TALARC GASLESS T11	
	0.6mm x 0.9kg	0.6mm x 5kg	0.8mm x 0.9kg	0.8mm x 4.5kg
	0.8mm x 0.9kg		0.9mm x 0.9kg	0.9mm x 4.5kg
				1.2mm x 4.5kg
	HYUNDAI SM70			
		0.8mm x 5kg	SUPERSHIELD 71GS	
		0.9mm x 5kg		0.9mm x 5kg
Stainless Steel	TALWELD KM 309LSi			
		0.9mm x 5kg		
		1.2mm x 5kg		
	TALWELD KM 316LSi			
		0.6mm x 5kg		
	0.8mm x 1kg	0.8mm x 5kg		
		0.9mm x 5kg		
		1.0mm x 5kg		
		1.2mm x 5kg		
Aluminium	TALWELD 5356			
		0.8mm x 2kg		
		0.9mm x 2kg		
		1.0mm x 2kg		
Silicon Bronze	TALWELD SILBRO			
		0.8mm x 5kg		
		0.9mm x 5kg		
Cast Iron	CAST IRON WELDING WIRE			
		1.2mm x 2.27kg		
Hardfacing	PHF650-G (2898-SPL)			
		1.2mm x 4.5kg		

TALARC FILLER METAL SELECTION CHART FOR AS1554.1

Based on new AS ISO Filler Metal Standards

Steel Group	Steel Type		Solid Wire	Flux Cored Wire	Electrode	Tig rod	Sub Arc
No. as per AS1554.1	AS 3678, AS 3679.1 or AS 3679.2		AS/NZS ISO 14341	AS/NZS ISO 17632	AS/NZS 4855 (ISO 2560)	AS/NZS 1167.2 ISO 636	AS1858.1
1	200	A1006	A G 42 4(0): **Hyundai SM70E** or A G 42 3 (0): **SM70N**	A T 42 0: **SF 70MX** or A T 42 2(0): **Supercored 71**	A E 35 0: **Kobe RB 26**, or A E 38 0 : **Oerlikon Overcored E**, or A E 42 0: **TALARC 46 BLUE**	A W 42 2(0): **ST-50.6 or ST-50.3**	W500Y: **M12K or H14 wire and 777MX flux**
	250	XK1016					
	300						
2	300L0		A G 42 4(2): **Hyundai SM70E** or A G 42 3 (2): **SM70N**	A T 42 2: **Hyundai Supercored 71 or 70NS**	A E 42 2: **Kobe LB52U or TALARC 86TC**	A W 42 2: **ST-50.6 or ST-50.3**	W503(2)Y: **M12K wire and 717 flux**
2S	250S0	300S0	A G 42 4(3): **Hyundai SM70E** or A G 42 3: **SM70N**		A E 42 3: **Kobe LB52-18**	A W 42 3: **ST-72**	W503Y: **M12K wire and 717 flux**
3	250L15	300L15	A G 42 4(3): **Hyundai SM70E** or A G 42 3: **SM70N**		A E 42 3: **Kobe LB52-18**	A W 42 3: **ST-72**	W503Y: **M12K wire and 717 flux**
	250L20	300L20					
	250Y20	300Y20					
	250L40	300L40					
	250Y40	300Y40					
4	350	400	A G 42 4(0): **Hyundai SM70E** or A G 42 3 (0): **SM70N**	A T 42 0: **SF 70MX** or A T 42 2: **Supercored 71**	A E 35 0: **Kobe RB 26** or A E 38 0 : **Oerlikon Overcored E**	A W 42 2(0): **ST-50.6 or ST-50.3**	W500Y: **M12K or H14 wire and 777MX flux**
	WR350						
5	WR350L0	350L0	A G 42 4(2): **Hyundai SM70E** or A G 42 3 (2): **SM70N**	A T 42 2: **Hyundai Supercored 71 or 70NS**	A E 42 2: **Kobe LB52U** or **TALARC 86TC**	A W 42 2: **ST-50.6 or ST-50.3**	W503(2)Y: **M12K wire and 717 flux**
6	350L15	400L15	A G 42 4(3): **Hyundai SM70E** or A G 42 3: **SM70N**		A E 42 3: **Kobe LB52-18**	A W 42 3: **ST-72**	W503Y: **M12K wire and 717 flux**
	350L20	400L20					
	350Y20	400Y20					
	350L40	400L40					
	350Y40	400Y40					
7A	450		A G 42 4(0): **Hyundai SM70E** or A G 42 3 (0): **SM70N**	A T 42 2(0): **Hyundai Supercored 71** or A T 42 0: **SF 70MX** or A T 46 3(0): **SF-71MC or 71LHM or FLUXOFIL 14HD**	A E 42 2(0): **Kobe LB52U or TALARC 86TC**	A W 46 5(0): **TALARC 80Ni-1 TIG**	W500Y: **M12K or H14 wire and 777MX flux**
7C	450L15	450L40	A G 42 4(3): **Hyundai SM70E** or A G 42 3: **SM70N**	A T 46 3: **SF-71MC or 71LHM or FLUXOFIL 14HD**	A E 42 3: **Kobe LB52-18**	A W 46 5(3): **TALARC 80Ni-1 TIG**	W503Y: **M12K wire and 717 flux**
	450L20	450Y40					
	450Y20						
8C	500L0		A G 50 5 (3): **TALARC ER80S-D2**		B 5518 U: **TALARC C3**	B G 55 3U: **TALARC D2 TIG**	

This table lists the pre-qualified welding consymables for various steel grades. The consumable grades are as per AS1554.1. Note, in some cases the Talarc product is "superior" to that given in AS 1554.1. For example, for Grade 350 (type 4) steel, using solid wire, AS 1554.1 calls for grade A G 42 0. The Talarc consumable offering/receommnedation is for Hyundai SM 70E wire which has grade of A G 42 4. The last digit indicates impact rating (eg 0 = 0°C and 4 = -40°C). AS 1554.1 states that "Consumables with a higher impact grading than that shown (listed) are also acceptable."

TALARC FILLER METAL SELECTION CHART FOR QUENCHED AND TEMPERED PLATE

Based on new AS ISO Filler Metal Standards

Steel Group	Steel Type	Steels	Solid Wire	Flux Cored Wire	Electrode	Tig rod	Sub Arc
No. as per AS1554.4	AS 3597	Examples	AS2717.1 AS/NZS ISO 14341	AS/NZS ISO 18276	AS/NZS 4857 (ISO 18275)	ISO 16834	AS1858.2
8	500, 500PV	Bisplate 60	W559H-Z: **TALARC D2 or TALARC 80Ni1**			B-W59 4 U: **TALARC D2 TIG** or **TALARC 80Ni1 TIG**	
9	600, 600PV	Bisplate 70	W769H-Z: **TALARC 110**	A T 69 4: **FLUXOFIL 42** or A T 69 6(4): **FLUXOFIL 42M**	A E 62 4: **TALARC NiCrMo**	B-W76 4 U: **TALARC 110 TIG**	
10	700, 700PV	Bisplate 80 / Weldox 700	W769H-Z: **TALARC 110**	A T 69 4: **FLUXOFIL 42** or A T 69 6(4): **FLUXOFIL 42M**	A E 65 5(2): **TENAX 118M**	B-W76 4 U: **TALARC 110 TIG**	
11	900	Bisplate 100 / Weldox 900					
12	1000	Weldox 960					
Filler Metals listed below are recommendations, but not pre-qualified to AS 1554.4, as wear-resistant steel grades are beyond the scope of AS 1554.4							
-	Wear resistant plate	Bisplate 320, 400, 450, 500, 600 / Hardox 400, 450, 500, 550, 600	**Hyundai 70E** or **TALARC 80Ni1 or D2**	**SF-71MC** or **Fluxofil 14HD** or **Supercord 81 MAG or FLUXOFIL 20HD**	**Kobe LB52U or TALARC 86TC or TENAX 35S**	**ST-50.6 or ST-50.3 or ST-72**	**M12K wire and 717 flux**

TALARC FILLER METAL SELECTION CHART FOR LOW ALLOY STEELS

Steel Type	Examples	Solid Wire	Flux Cored Wire	Electrode	Tig rod	Sub Arc
0.5%Mo steels	ASTM A182: F1 ASTM A335: P1 ASTM A336: F1 16Mo3	TALARC D2		TALARC A1 Mo	TALARC D2 TIG	
High strength, 550-600 MPa and/or PWHT applications	AISI 4130 ASTM A487: Gr 2A, 2B, 2C	TALARC D2	FLUXOFIL 20HD		TALARC D2 TIG	
Weathering steels	ASTM A242 or A588 Corten A or B	TALARC Cu	FLUXOFIL 20HD	TALARC C3	TALARC 80Ni-1 TIG or TALARC 80Ni-2 TIG	
High strength steels: 700-800 MPa tensile	AS3597: Gr 600, 700 API-5LX: X70, X75 ASTM A514, A517 ASTM A533: Type A	TALARC 110	FLUXOFIL 42 or FLUXOFIL 42M	TALARC NiCrMo or TENAX 118M	TALARC 110 TIG	
1-1.5% Cr, 0.5% Mo steels	13 CrMo 4-5 25 CrMo 4 14 CrMo 4-5 ASTM A335-P11 ASTM A387-G11,G12	TALARC B2	TALCOR B2	TALARC CrMo B2	TALARC B2 TIG	TALARC EB2 and S-717 Flux
2-2.5% Cr, 1% Mo steels	10 CrMo 9-10 12 CrMo 9-10 ASTM A335-P22 ASTM A387-G22	TALARC B3	TALCOR B3	TALARC CrMo B3	TALARC B3 TIG	TALARC EB3 and S-717 Flux
5% Cr, 0.5% Mo steel	ASTM A182: F5, F5A ASTM A335: P5	TALARC B6			TALARC B6 TIG	
9% Cr, 1%Mo Creep resistant steel	ASTM A182: F9 ASTM A335: P9, P91				TALARC B9 TG	

Stainless Steel Filler Metal Selction Chart

Grade	Solid Wire	Flux Cored Wire	Electrode	Tig rod
201, 202, 205, 209 304/304L, 304N/304NL 305, 308	TALWELD KM 308LSi	FLUXINOX 308L-PF	TALWELD KS 308L	TALWELD KT 308L TIG
304H	TALWELD KM 308H		TALWELD KS 308H	TALWELD KT 308H TIG
303, 303Se	TALWELD KM 312		TALWELD KS 312	TALWELD KT 312 TIG
309, 309S	TALWELD KM 309LSi TALWELD KM 309LMo	FLUXINOX 309L-PF SW309L Cored	TALWELD KS 309L	TALWELD KT 309L TIG TALWELD KT 309LMo TIG
310, 310S, 314	TALWELD KM 310		TALWELD KS 310	TALWELD KT 310 TIG
316/316L, 316N/316NL	TALWELD KM 316LSi TALARC RW 316LSi	FLUXINOX 316L-PF SW316L Cored	SUPRANOX 316L TALWELD KS 316L	TALWELD KT 316L TIG
321, 321H, 347, 347H, 348	TALWELD KM 347		TALWELD KS 347	TALWELD KT 347 TIG
317, 317L, 385 (904L)	TALARC KM 385			TALWELD KT 385 TIG
S30815 (253 MA type)	TALARC KM 253MA			TALWELD KT 253MA TIG
405, 429, 430, 430F, 430SFe, 431, 434, 436	TALWELD KM 430			
409, 3Cr12, 5Cr12	TALWELD KM 307Si TALWELD KM 309LSi TALWELD KM 409	FLUXINOX 309L-PF	TALWELD KS 309L	TALWELD KT 309L TIG
410, 410S	TALWELD KM 410 NiMo			TALWELD KT 410 TIG
420	TALWELD KM 420			
442, 446	TALWELD KM 309LSi TALWELD KM 309LMo	FLUXINOX 309L-PF	TALWELD KS 309L	TALWELD KT 309L TIG TALWELD KT 309LMo TIG
2205, 2304 - Duplex	TALWELD KM 2209	FLUXINOX 22.9.3L-PF	SUPRANOX ERS 22.9.3N	TALWELD KT 2209 TIG
2507, Zeron 100 - Super Duplex	TALWELD KM 2594			TALWELD KT 2594 TIG

Dissimilar Stainless Steel Filler Metal Selection Chart

	Unknown STEEL	Carbon and low alloy steels	Super Duplex 2507	Duplex 2205, 2304	409, 3CR12, 5CR12	410, 420	430, 431, 446	904L (385)	321, 347	317, 317L	316, 316L	310, 310S	309, 309S	304H	304, 304L	201 202
201 202	312 S,E,T	312 S,E,T 309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309L E,F,T 309LSi S 309LMo S,T	2209 S,T 22.9.3 E,F 309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	310 S,E,T	347 S,E,T 904L S,T (385)	347 S,E,T	308L E,F,T 308LSi S	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	308L E,F,T 308LSi S	308L E,F,T 308LSi S	308L E,F,T 308LSi S
304, 304L	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309L E,F,T 309LSi S 309LMo S,T	2209 S,T 22.9.3 E,F 309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	310 S,E,T	347 S,E,T	347 S,E,T	316L E,F,T 316LSi S	308L E,F,T 308LSi S	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	308L E,F,T 308LSi S	308L E,F,T 308LSi S	
304H	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309L E,F,T 309LSi S 309LMo S,T	2209 S,T 22.9.3 E,F 309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	310 S,E,T	347 S,E,T	347 S,E,T	To 316/317: 308H S,E,T To 316L/317L: 308L E,F,T 308LSi S		310 S,E,T	309L E,F,T 309LSi S 309LMo S,T	308H S,E,T		
309, 309S	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309L E,F,T 309LSi S 309LMo S,T	2209 S,T 22.9.3 E,F 309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	310 S,E,T	904L S,T (385)	347 S,E,T	309L E,F,T 309LSi S 309LMo S,T 316L E,F,T 316LSi S	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T			
310, 310S	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309LMo S,T	2209 S,T 22.9.3 E,F 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	310 S,E,T	310 S,E,T	904L S,T (385)	309L E,F,T 309LSi S 309LMo S,T	316L E,F,T 316LSi S	316L E,F,T 316LSi S	310 S,E,T				
316, 316L	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309LMo S,T	2209 S,T 22.9.3 E,F 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	310 S,E,T	904L S,T (385)	347 S,E,T	316L E,F,T 316LSi S	316L E,F,T 316LSi S					
317, 317L	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309LMo S,T	2209 S,T 22.9.3 E,F 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	310 S,E,T	904L S,T (385)	347 S,E,T	904L S,T						
321, 347	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309LMo S,T	2209 S,T 22.9.3 E,F 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	310 S,E,T	904L S,T (385)	347 S,E,T							
904L (385)	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309LMo S,T	2209 S,T 22.9.3 E,F 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	904L S,T (385)								
430, 431, 446	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309LMo S,T	2209 S,T 22.9.3 E,F 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	310 S,E,T	430 S									
410, 420	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309LMo S,T	2209 S,T 22.9.3 E,F 309LMo S,T	309L E,F,T 309LSi S 309LMo S,T	309LMo S,T 410NiMo S 410 T										
409, 3CR12, 5CR12	312 S,E,T	309L E,F,T 309LSi S 309LMo S,T	2594 S,T 309LMo S,T	2209 S,T 22.9.3 E,F 309LMo S,T	307Si S 309LSi S 309L E,F,T 409 S											
Duplex 2205, 2304	312 S,E,T	2209 S,T 22.9.3 E,F 309L E,F,T 309LSi S 309LMo S,T	2209 S,T 22.9.3 E,F 2594 S,T	2209 S,T 22.9.3 E,F												
Super Duplex 2507	312 S,E,T	2594 S,T 309L E,F,T 309LSi S 309LMo S,T	2594 S, T													

S = SOLID GMAW Welding Wire
E = Manual Arc Welding ELECTRODE
F = FLUX Cored Welding Wire
T = TIG (GTAW) Rod

Selection Chart for Copper Alloys

Base metal	GMAW	TIG	Braze Weld
High Purity Copper	Talweld De-Ox	Talweld De-Ox TIG	
Electrolytic Copper	Talweld De-Ox	Talweld De-Ox TIG	
Silicon Bronze	Silicon Bronze	Silicon Bronze TIG	
Phosphor Bronze	Phos-C	Phos-C TIG	
Gunmetal (non-leaded only)	Phos-C	Phos-C TIG	
Copper-nickel	Monel 67	Monel 67 TIG	
Aluminium Bronze	Aluminium Bronze	Bronzeweld A2	
Nickel-Al Bronze	Nickel-Al Bronze		
Brasses (Cu-Zn)	Silicon Bronze	Silicon Bronze TIG	Tobin Bronze
Nickel Silver			Nickel Bronze
Copper to steel	Talweld De-Ox	Talweld De-Ox TIG	
Brass to steel	Silicon Bronze	Silicon Bronze TIG	Mang. Bronze
Galvanized steel (thin sections)	Silicon Bronze	Silicon Bronze TIG	
Braze welding of steel, cast iron			Mang. Bronze
Braze welding of nickel based alloys			Nickel Bronze
Tungsten carbide tips for m/c tools			Nickel Bronze
Leaded brasses	Not recommended for welding		

MMA Welding Electrode Selction Chart for High Ni Alloys

	Copper-Nickel alloys	Cast High Temp alloys	Duplex and Super Duplex	Austenitic stainless steels	3 - 30% Cr steels	Carbon and low alloy steels	Ni Steels	Incoloy 825	Incoloy 803, 800, 800H/HT	Inconel 686	Inconel 625	Inconel 600	Monel 400
Nickel 200	Monel 190	Incoweld A Inconel 112 Inconel 182	Incoweld A	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Incoweld A	Incoweld A Inconel 112 Inconel 182	Incoweld A	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Monel 190
Monel 400	Monel 190	Incoweld A Inconel 112 Inconel 182	Incoweld A	Incoweld A Inconel 112 Inconel 182 Monel 190	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182 Monel 190	Incoweld A Inconel 112 Inconel 182 Monel 190	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112	Incoweld A Inconel 112	Incoweld A Inconel 112 Inconel 182	Inconel 112 Monel 90
Inconel 600	Incoweld A Inconel 182	Incoweld A Inconel 117	Incoweld A	Incoweld A Inconel 112 Inconel 117 Inconel 182	Incoweld A Inconel 112 Inconel 117	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 117	Incoweld A	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 182	
Inconel 625	Incoweld A Inconel 112	Incoweld A Inconel 117	Inconel 112	Inconel 112	Incoweld A Inconel 112	Incoweld A Inconel 112	Incoweld A Inconel 112	Inconel 112	Incoweld A Inconel 112 Inconel 117 Inconel 182	Inconel 112	Inconel 112		
Inconel 686		Inconel 117		Incoweld A Inconel 182	Incoweld A Inconel 182	Incoweld A Inconel 182	Incoweld A Inconel 182	Inconel 112	Incoweld A				
Incoloy 803, 800, 800H/HT	Incoweld A Inconel 182	Incoweld A Inconel 117	Incoweld A	Incoweld A Inconel 112 Inconel 117	Incoweld A Inconel 117	Incoweld A Inconel 117	Incoweld A Inconel 117	Incoweld A Inconel 112	Incoweld A Inconel 117				
Incoloy 825	Incoweld A Inconel 182	Incoweld A Inconel 112	Inconel 112	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112 Inconel 182	Inconel 112					
Ni Steels	Incoweld A Inconel 182 Monel 190	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 182	Incoweld A Inconel 112 Inconel 182	Incoweld A Inconel 112	Incoweld A Inconel 112	Incoweld A Inconel 112						
Carbon and low alloy steels	Incoweld A Inconel 182 Monel 190	Incoweld A Inconel 112 Inconel 182	See dissimilar steels chart	See dissimilar steels chart	Incoweld A Inconel 112	See mild, low alloy steel charts							
3 - 30% Cr steels	Incoweld A Inconel 182	Incoweld A Inconel 112 Inconel 117	Incoweld A	Incoweld A Inconel 112 Inconel 182	Inconel 112								
Austenitic stainless steels	Incoweld A Inconel 182	Incoweld A Inconel 112 Inconel 117	See Stainless steel chart	See Stainless steel chart									
Duplex and Super Duplex	Incoweld A	Incoweld A	See Stainless steel chart										
Cast High Temp alloys	Incoweld A Inconel 117	Incoweld A Inconel 117											

TIG Rod Selction Chart for High Ni Alloys

	Copper-Nickel alloys	Cast High Temp alloys	Duplex and Super Duplex	Austenitic stainless steels	3 - 30% Cr steels	Carbon and low alloy steels	Ni Steels	Incoloy 825	Incoloy 803, 800, 800H/HT	Inconel 686	Inconel 625	Inconel 600	Monel 400	Nickel 200
Nickel 200	Monel 60 Monel 67 Nickel 61	Inconel 82 Nickel 61	I-W 686CPT Inconel 82 Nickel 61	Inconel 82 Nickel 61	Inconel 82 Nickel 61	Inconel 82 Nickel 61	Inconel 82 Nickel 61	Inconel 625 Inconel 82 Nickel 61	Inconel 82 Nickel 61	I-W 686CPT Inconel 82 Nickel 61	Inconel 625 Inconel 82 Nickel 61	Inconel 82 Nickel 61	Monel 60 Nickel 61	Nickel 61
Monel 400	Monel 60 Monel 67 Nickel 61	Inconel 625 Inconel 82	I-W 686CPT Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82 Monel 60	Inconel 625 Inconel 82 Monel 60	Inconel 625 Inconel 82 Monel 60	Inconel 625 Inconel 82	Inconel 625 Inconel 82	I-W 686CPT Inconel 625 Inconel 82	Inconel 625 Inconel 82 Nickel 61	Inconel 625 Inconel 82	Inconel 625 Monel 60	
Inconel 600	Inconel 82 Nickel 61	Inconel 625 Inconel 617 Inconel 82	I-W 686CPT Inconel 82	Inconel 625 Inconel 617 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 617	I-W 686CPT Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 82		
Inconel 625	Inconel 625 Inconel 82 Nickel 61	Inconel 625 Inconel 617 Inconel 82	I-W 686CPT	I-W 686CPT Inconel 625 Inconel 82	I-W 686CPT Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625	Inconel 625 Inconel 617 Inconel 82	I-W 686CPT Inconel 625	Inconel 625			
Inconel 686	I-W 686CPT Inconel 625 Nickel 61	I-W 686CPT Inconel 617 Inconel 82	I-W 686CPT	I-W 686CPT Inconel 625 Inconel 82	I-W 686CPT Inconel 625 Inconel 82	I-W 686CPT Inconel 625 Inconel 82	I-W 686CPT Inconel 625 Inconel 82	I-W 686CPT Inconel 625	I-W 686CPT Inconel 617 Inconel 625 Inconel 82	I-W 686CPT				
Incoloy 803, 800, 800H/HT	Inconel 82 Nickel 61	Inconel 625 Inconel 617 Inconel 82	I-W 686CPT Inconel 82	Inconel 625 Inconel 617 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 82 Inconel 617					
Incoloy 825	Inconel 82 Nickel 61	Inconel 625 Inconel 82	I-W 686CPT Inconel 625	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	I-W 686CPT Inconel 625						
Ni Steels	Inconel 82 Nickel 61	Inconel 625 Inconel 82	I-W 686CPT Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82							
Carbon and low alloy steels	Inconel 82 Nickel 61	Inconel 625 Inconel 82	See dissimilar steels chart	See dissimilar steels chart	Inconel 625 Inconel 82	See mild, low alloy steel charts								
3 - 30% Cr steels	Inconel 82 Nickel 61	Inconel 625 Inconel 617 Inconel 82	I-W 686CPT Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82									
Austenitic stainless steels	Inconel 82 Nickel 61	Inconel 82	See Stainless steel chart	See Stainless steel chart										
Duplex and Super Duplex	I-W 686CPT Inconel 82	I-W 686CPT Inconel 82	See Stainless steel chart											
Cast High Temp alloys	Inconel 82 Nickel 61	Inconel 82 Inconel 617												
Copper-Nickel alloys	Monel 67													

GMAW Wire Selction Chart for High Ni Alloys

	Copper-Nickel alloys	Cast High Temp alloys	Duplex and Super Duplex	Austenitic stainless steels	3 - 30% Cr steels	Carbon and low alloy steels	Ni Steels	Incoloy 825	Incoloy 803, 800, 800H/HT	Inconel 686	Inconel 625	Inconel 600	Monel 400
Nickel 200	Monel 67	Inconel 82	Inconel 82	Inconel 82	Inconel 82	Inconel 82	Inconel 82	Inconel 625 Inconel 82	Inconel 82	Inconel 82	Inconel 625 Inconel 82	Inconel 82	
Monel 400	Monel 67	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625
Inconel 600	Inconel 82	Inconel 625 Inconel 82	Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 82	
Inconel 625	Inconel 625 Inconel 82	Inconel 625 Inconel 82		Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625	Inconel 625 Inconel 82	Inconel 625	Inconel 625		
Inconel 686	Inconel 625	Inconel 82		Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625	Inconel 625 Inconel 82				
Incoloy 803, 800, 800H/HT	Inconel 82	Inconel 625 Inconel 82	Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 82				
Incoloy 825	Inconel 82	Inconel 625 Inconel 82	Inconel 625	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625					
Ni Steels	Inconel 82	Inconel 625 Inconel 82	Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82						
Carbon and low alloy steels	Inconel 82	Inconel 625 Inconel 82	See dissimilar steels chart	See dissimilar steels chart	Inconel 625 Inconel 82	See mild, low alloy steel charts							
3 - 30% Cr steels	Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82	Inconel 625 Inconel 82								
Austenitic stainless steels	Inconel 82	Inconel 82	See Stainless steel chart	See Stainless steel chart									
Duplex and Super Duplex	Inconel 82	Inconel 82	See Stainless steel chart										
Cast High Temp alloys	Inconel 82	Inconel 82											
Copper-Nickel alloys	Monel 67												

HARDFACING and REPAIR/MAINTENANCE Application Chart

Type	Application/Alloy		Bare rod	Electrode	Solid Wire	FCW with gas	Open Arc FC Wire
L	Build-Up/Buffer - low alloy steel		TALARC 110 TIG	Hyundai S 350A.R	TALARC HF350	PHF 350G (2892-SPL)	PHF 350 O (2892-FCO)
	Build-Up/Joining - manganese steel			Hyundai S 13Mn.B		PHF MANG-O/G (2850-SPL)	
H	General Purpose Hardfacing			Hyundai S-700B.B	TALARC HF600	PHF 650G (2898-SPL)	PHF 650 O (2898-FCO)
	Forging Dies and Metal Forming					PHF 2747-FCG	
	Abrasion and Impact			Hyundai S-700B.B	TALARC EA600	PHF 650G (2898-SPL)	PHF 2820-SPL
V	Severe Abrasion			Hyundai S711 Postalloy 216HD		PHF 850 O/G (2832-SPL)	
							SUPERSHIELD CrCW
						PHF 2836-SPL	
E	Extreme Abrasion			Postalloy 219HD		MATRIX PS-98 with TALWELD TUNGSTEN CARBIDE GRANULES	Tungsten Carbide 299 (PHF 299-SPL)
	Special Alloys: Cobalt base for heat, wear and/or corrosion		TALWELD WT-6			COBALT 6 (PHF 2506-SPL)	
			TALWELD WT-12			COBALT 12 (PHF 2512-SPL)	
			TALWELD WT-21				
	Special Alloys: Nickel base for Cast Iron	High Ni	NI-ROD 99 TIG	PHF 51	NI-ROD 99		
		Ni Iron		PHF 50	NI-ROD 44	CAST IRON WELDING WIRE	
				PHF 505			