

Base material	Description	Welding process / filler metals					
		Stick electrodes (1 st choice)	Stick electrodes (2 nd choice)	GMAW/ GTAW	FCAW	SAW	
Cast Iron	Grey CI	Pure Nickel	Nickel Iron	On request	On request	-	A,B
	Nodular CI	Nickel Iron	Pure Nickel	On request	On request	-	B
	Malleable CI	Nickel Iron	-	On request	On request	-	A,B
	CI to steel	Nickel Iron	Pure Nickel	On request	On request	-	A,B
Difficult-to-weld steel (DFTW)	C45	312R	307R	W312, G/W307	On request	-	C
	42CrMo4	312R	307R	W312, G/W307	On request	-	C
	42MnV7	312R	307R	W312, G/W307	On request	-	C
	Tool steel	312R	307R	W312, G/W307	On request	-	C
	Cast steel	307R	312R	G/W307	On request	-	C
	Mn-steel	307R	312R	G/W307	On request	-	D
	Armour plate	307R	312R	G/W307	On request	-	C
	Spring steel	312R	307R	W312, G/W307	On request	-	C
	Unknown materials	312R	307R	W312, G/W307	On request	-	C
Wear resistant surfacing	Medium abrasion, high impact	Hardmelt 600	-	H-600	Hilcord 600	-	E
	Heavy abrasion, medium impact	Hardmelt 638	Hardmelt 643	-	On request	-	E
	Extreme abrasion, low impact	Hardmelt 643	Hardmelt 645	-	On request	-	E
	Extreme impact, low abrasion	Manganil BMC	Hardmelt 350	H-350	On request	-	-
	Sliding wear, heavy impact	Hardmelt 620	Hardmelt 600	H-600	On request	-	E
	Sliding wear, impact, corrosion	Hilchrome 312R	Hilchrome 307R	W312	On request	-	-
	Extreme sliding, abrasion, heat and corrosion	Hilcostel 6E	Hilcostel 12E	Hilcostel 6T	On request	-	F
	Buffer layers prior to surfacing	Hilchrome 312R	Hardmelt 350	W312 H-350	On request	-	G
Remarks	A	Preening, hammering of the weld deposit is helping to reduce welding stress					
	B	A temperature (interpass) of 60°C should be maintained to avoid heat stress					
	C	Preheat thick workpieces up to 150-200°C					
	D	Do not preheat, keep interpass temperature at max. 150°C					
	E	Preheat crack sensitive base materials, apply a buffer layer prior to surfacing					
	F	Preheat base materials: <ul style="list-style-type: none"> • Small workpieces: 200-300°C • Large workpieces: 300-400°C 					
	G	First choice for crack sensitive base materials and filler metals					