SUPERWELD Ni

Electrodes MMA [SMAW]

Cast iron

CLASSIFICATION:	APPROVALS:	APPLICATION:
EN ISO 1071-A : E C Ni-Cl DIN 8573 : E Ni BG1 AWS A-5.15 : E Ni-Cl	UDT	Power generation industry Hardfacing and repairing Constructions & Engineering Metallurgy (Steelworks) Mining Petrochemical and chemical industry

- Medium-coated electrode for welding gray and malleable cast iron, for regenerating cast iron castings using the cold method, as well as for joining cast iron with steel.
- Particularly suitable for the regeneration of very thin components.
- The weld metal has the highest plasticity.
- It can be welded in all positions, including up and down.
- Thanks to the very high content of Ni, the weld metal is resistant to carbon.
- An excellent material for reconstructing damaged thin elements due to very low operating parameters.
- When P or S is present, the weld metal is less ductile and more susceptible to cracking.

Application

Regeneration of damaged castings, cast iron elements. Making dissimilar connections between cast iron and other materials. Making buffer layers on cast iron elements. Regeneration, repair of cavities caused on cast iron by friction and aggressive media.

Base material

DIN 1691	DIN 1692	DIN 1693
GG-10	GTS-35-10	GGG-40
GG-15	GTS-45-06	GGG-50
GG-20	GTS-55-4	GGG-60
GG-25	GTW-35-04	
GG-30	GTW-40-05	
GG-35	GTW-45-07	
	GTW-S-38-12	
Gray cast iron, nodular cast iron	Dissimilar connections with steel or cast steel, etc.	Malleable cast iron from EN GJMB 350 to ENGJMB 650

Typical chemical composition %

Ni
96,0

Typical mechanical properties

Yield strength Re [N/mm2]	200
Tensile strength Rm [N/mm2]	250
Elongation A5 [%]	3
Hardness	160 HB /
Coating type	basic-graphite
Wire/rod type	pure nickel

	
Welding positions	
Redrying	200°C / 1 h
Additional description	Attention should be paid to the possibility of formation of low-melting nickel eutectics. In the case of contaminated cast iron, e.g. S, P, Cu, etc., the eutectic crystallization temperature is much lower than that of steel or cast iron, which may cause welding imperfections. Recommendations: Heating is only possible for the whole element. Carrying out the regeneration at 250-300°C will significantly facilitate the cutting of the overlay. Very slow cooling, in sand or under thermal blankets. Weld on a short arc, in small sections. Avoid deep penetration and reduce mixing of materials.

Welding parameters and packing

ø	Length [mm]	Welding current [A]	Weight of packet [kg]	Weight of carton [kg]
2,5	300 /	50-80	1,4	8,4
3,2	350 /	80-110	2,0	12,0
4,0	350 /	110-150	2,0	12,0
5,0	350 /	150-190		

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