	DATA SHEET **DS 054** **Rev. 7 dd 19/01/2015** **INEFIL 80 Ni 1**	I.N.E. S.p.A. Via Facca 10 35013 Cittadella (PADOVA) ITALY Tel. : +39 049/9481111 Fax: + 39 049/9400249 Internet: www.ine.it E mail: ine@ine.it

CLASSIFICATION

AWS SPECIFICATIONS	EN SPECIFICATIONS
AWS A 5.28: ER80S-Ni1	EN ISO 14341-A: G 46 5 M21 3Ni1
AWS A 5.28M: ER55S-Ni1	
ASME SFA 5.28: ER80S-Ni1	
ASME SFA 5.28M: ER55S-Ni1	

APPROVALS

ALLOY TYPE

1Ni for good low temperature toughness.

APPLICATIONS

Low alloy copper-coated solid wire designed for welding low alloy steels with 1% Ni content, fine grained for low temperature applications (-50°C). Nickel increases atmospheric weathering resistance and improves electrochemical balance between weld and base metal. Suitable for the construction of offshore platforms, pressure vessels and pipelines. To be used under the shield of Ar+CO_2.

MATERIALS TO BE WELDED

ASTM		EN		Others
A 333 Gr 6	API 5LX60	10025 S275	10113-2 S275	
A 334 Gr 6	API 5LX65	10025 S355	10113-2 S355	
A 350 Gr LF2	A 131 Gr A	10208-1 L290 G A	10113-2 S420	
A 350 Gr LF5	A 131 Gr B	10208-1 L360 G A	10113-3 S274	
API 5LX42	A 131 Gr D	10208-2 L290	10113-3 S355	
API 5LX46	A 131 Gr E	10208-2 L360	10113-3 S420	
API 5LX52		10208-2 L415		

WELDING GUIDELINES

Preheat and interpass temperature 150°C. PWHT is not required.

TECHNICAL INFORMATION

Gas: Mix Ar- CO_2 (EN 14175)
Welding position: all positions

WELDING PARAMETERS

Current	DC + Reverse polarity					
Diameter (mm)	0.8	1.0	1.2	1.6		
Volts (V)	16 ÷ 28	17 ÷ 32	18 ÷ 34	19 ÷ 38		
Intensity (A)	60 ÷ 200	80 ÷ 260	100 ÷ 360	130 ÷ 450		

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TYPICAL CHEMICAL COMPOSITION OF WIRE

C %	Mn %	Si %	S %	P %	Cr %	Ni %	Mo %	Cu %	
0.10	1.10	0.60	0.01	0.01	-	1.00	0.10	0.12	

TYPICAL MECHANICAL PROPERTIES

GAS		Yield strength	Tensile strength	Elongation on % 5d	Impact energy (Charpy V)				
		Rs	Rm	A 5d	+ 20°C	0°C	-20°C	-40°C	-50°C
		(MPa)	(Mpa)	%	(Joule)	(Joule)	(Joule)	(Joule)	(Joule)
M21	as welded	490	570	25	-	-	130	80	60

PRODUCTS AVAILABLE

Process	Product	Classification AWS	Classification EN
MIG/MAG Solid wire			
TIG Rods	INETIG 80 Ni 1	AWS A 5.28: ER80S-Ni1	EN 636-A: W3Ni1
SAW Submerged arc	INESUB S2Ni1 INESUB S2Ni1K	AWS A 5.23: ENi1 AWS A 5.23: ENi1K	EN 14171-A: S2Ni1
FCAW Cored wire	INETUB R81T1-Ni1 INETUB M81TG-Ni1 INETUB B81T5-Ni1	AWS A 5.29: E81T1-Ni1 AWS A 5.28: E80C-Ni1 AWS A 5.29: E81T5-Ni1	EN 17632-A: T 1Ni EN 17632-A: T 1Ni EN 17632-A: T 1Ni
SMAW Electrodes	INE C3	AWS A 5.5: E8018-C3	EN 2560-A: E 1Ni