

DURMAT[®] NI-3

Stick Electrode DIN EN 14700: E Ni20
(DIN 8555: E21-GF-UM-60-CGZ)

General characteristics:

DURMAT NI-3 is a tubular electrode filled with a mixture of FTC and special carbides in a combination with a specially developed nickel alloy for manual welding. This alloy is designed for applications where extreme abrasion in combination with corrosion is expected. The alloy combination of DURMAT NI-3 is specially designed for items that are exposed to corrosive media and excessive wear conditions. The matrix is highly resistant to acids, lye's and other corrosive media.

Application:

Repairing and hard facing ferritic and austenitic steels (steel castings), stabilizer blades, conveyor screws, milling plates, deep drilling tools, and mixer blades.

Chemical composition (in wt-%):

FTC	Other carbides	Ni-matrix
60	6	Balance

Physical characteristics:

Hardness: FTC: approx. 2360 HV_{0.1}
Other carbides: approx. 2900 HV_{0.1}
Ni-matrix: approx. 480 – 520 HV_{0.1}

Welding recommendation:

Type	Ø mm	Ø inch	length of rod	Amps	Voltage
4005	4.0	5/32	350 mm	100 A	= + / □
5005	5.0	3/16	350 mm	120 A	= + / □
6005	6.0	1/4	350 mm	160 A	= + / □

The alloy has a low melting point of between 950 – 1100°C (1,742-2,012°F) and feature a self fluxing characteristic producing a smooth and clean surface.

Note: DURMAT-NI-3 should be welded on the lowest possible current setting to avoid carbide decomposition and achieve maximum wear resistance.

Patents:

Germany: No. 40 08 091.9-41
Great Britain: No. 2.232.108
USA: No. 5.004.886