

Prepared by David P	Qualified by Siva P	Approved by Umesh M	Reg no EN1020041	Cancelling EN1020040	Reg date 2024-08-15	Page 1 (2)
------------------------	------------------------	------------------------	---------------------	-------------------------	------------------------	---------------

GENERAL

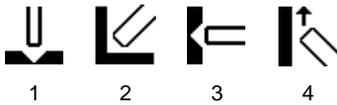
A specially designed SMAW electrode for repair and build-up of drop forging dies and damaged profiles. The deposit contains Cr-Ni-Mo-W-V alloying in a Fe-based alloy. Unique features of this alloy include superior deformation resistance at high temperature, excellent compatibility with die-block steels and machinable with tungsten carbide tools. The electrode is recommended for repair of worn-out or damaged profiles. Salvage of scrapped undersized die-blocks by total re-build with weld metal. Re-conditioning of drop forging dies, punches, inserts etc.

Polarity: AC, DC+

Alloy Type : Fe based alloy

Coating Type : Rutile

WELDING POSITIONS



CLASSIFICATIONS Electrode

EN 14700 : EFe1
DIN 8555 : E1-UM-400-P

APPROVALS

CHEMICAL COMPOSITION

All Weld Metal (%)

	Min	Max	Nom
C	0.05	0.2	0.1
Si	0.1	1.0	0.5
Mn	0.5	1.5	1.1
Cr	1.5	3.0	2.2
Ni	1.5	3.0	2.5
Mo	0.2	1.0	0.6
V	0.1	0.5	0.25
W	0.2	1.0	0.3
Fe	-	-	Balance

Prepared by David P	Qualified by Siva P	Approved by Umesh M	Reg no EN1020041	Cancelling EN1020040	Reg date 2024-08-15	Page 2(2)
------------------------	------------------------	------------------------	---------------------	-------------------------	------------------------	--------------

MECHANICAL PROPERTIES OF WELD METAL

Hardness	Min	Max	Nom
As-Deposited hardness	35 HRc	45 HRc	41 HRc

Comments:

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)	W	η	N	B	H	T	U	Welding Positions
\emptyset x Length	Min	Max							
3.15 x 350	90	130							
4.0 x 350	120	160							
5.0 x 350	180	200							

- W** = Weight (kg / 100 electrodes)
- η** = Efficiency (g weld metal x 100 / g core wire)
- N** = Effective value (kg weld metal / kg electrodes)
- B** = Changes (number of electrodes / kg weld metal)
- H** = Deposit rate at 90% of max current (kg weld metal / hour arc time)
- T** = Fusion time at 90% of max current (s / electrode)
- U** = Arc voltage (V)

OTHER DATA

Clean weld area. Remove cracked or fatigued metal with EWAC GOUGETEC. Pre-heat 400 – 450 °C and maintain throughout welding. Weld with short arc, keeping electrode perpendicular to welding direction. Peening of deposits is essential. Chip slag between passes. After completion of deposition, air-cool the job to 200 °C to develop uniform hardness. Then transfer to a furnace at 550 – 600 °C and temper desired period depending on the thickness of the job. Remove into still air and cool.

Redrying: 280°C, 2 hrs.