OK 85.65

SMAW

Type Lime-basic E4-UM-60-S

Description

OK 85.65 deposits a molybdenum-alloyed, high-speed steel. Suitable for metal cutting tools, punching tools, drills and stamping machines. Welded cutting edges can be put into use without tempering. For shaping machine tools and large cutting tools, untempered weld metal is recommended.
To avoid cracking, the working temperature should be at least 300°C and preferably 400-500°C.

Welding current

AC, DC+ OCV 70 V

Heat treatment data

Hardening. Temperature, °C:	1230-1250
Cooling:	In air
Tempering. Temperature, °C:	525
Holding time, h:	2 x 1h
Cooling:	In air
Soft annealing. Temperature, °C:	750-775
Holding time, h:	2- 3
Cooling:	In air

Classifications

DIN 8555 E4-UM-60-S

Typical all weld metal composition, %

C	Si	Mn	Cr	Mo	W	V
0.9	1.5	1.3	4.5	7.5	1.8	1.5

Typical mech. properties all weld metal

Weld metal hardness	59-61 HRC
(top of a three-layer deposit on mild steel, preheat and interpass temperature 450C)	
As welded:	59-61 HRC
Tempered:	65-67 HRC
Soft annealed:	37-40 HRC
Machinability	Grinding only
Abrasion resistance	Very good
High temp. wear resistance	Very good

Tempering resistance

Temp°C	HRC(1h)	HRC(2x1h)
20	60	60
100	60	60
300	60	60
400	58	58
550	62	66
700	40	40

Deposition data at max current

Diameter, mm	Length, mm	Welding current, A	Arc voltage, V	N. Kg weld metal/kg electrodes	B. No. of electrodes/kg weld metal	H. Kg weld metal/hour arc time	T. Burn-off time, s/ electrode
2.5	350	80-110	23	0.55	67.0	0.8	67
3.2	350	100-150	23	0.57	40.0	1.1	82
4.0	350	120-190	25	0.58	26.5	1.4	97