48HT

Basic Coated Electrode for hot working tools

TECO

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Classification

DIN 8555 : E3-UM-50-T
EN 14700 : E Fe3

Description & Applications

The weld deposit distinguishes itself by its toughness and heat resistance. Therefore the electrode is used for overlay and build up of machinery parts and tools subject to impact, compression and wear used at operating temperatures up to 550°C.
It is widely used for building up hammers, dies, swages, hot shear blades, rollers, etc ...

Base materials **High strength carbon steels and hot working steels**

Material N°	DIN classification	Material N°	DIN classification
1.2311	40CrMnMo 7	1.2367	X38CrMoV 5 3
1.2343	X38CrMoV 5 1	1.2606	X37CrMoW 5 1
1.2344	X40CrMoV 5 1	1.2713	55NiCrMoV 6
1.2365	X32CrMoV 3 3	1.2714	56NiCrMoV 7

Typical Weld Metal Composition (%)

C	Si	Mn	Cr	Mo	Fe
0.3	0.5	0.6	5.2	4.0	base

All Weld Metal Mechanical Properties

Hardness (as welded)
45-50 HRC
Obtained in pour weld metal

Welding Current & Instructions

Electrode	ØxL (mm)	2,5x300	3,2x350	4,0x450
Current	(A)	60-90	80-110	100-140

Preheat the workpiece to 250-400℃ depending on thi ckness and alloy. Hold the electrode vertically with a short arc. Keep temperature during welding and let the workpiece cool slowly.
Subsequent machining is possible by grinding or with tungsten carbide tools.

1G/PA 2F/PB 2G/PC 3G/PF 4G/PE

= +,-	~ 70V

56HT

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Classification

DIN 8555 : E3-UM-55-ST
EN 14700 : E Fe3

Description & Applications

The weld deposit distinguishes itself by its high hardness, toughness and heat resistance. Therefore the electrode is used for overlay and build up of machinery parts and tools subject to impact, compression and wear used at operating temperatures up to 550℃ .
It is widely used for building up hammers, dies, swages, hot shear blades, rollers, extrusion press pistons, valves, etc ...

Base materials **High strength carbon steels and hot working steels**

Material N°	DIN classification	Material N°	DIN classification
1.2311	40CrMnMo 7	1.2367	X38CrMoV 5 3
1.2343	X38CrMoV 5 1	1.2606	X37CrMoW 5 1
1.2344	X40CrMoV 5 1	1.2713	55NiCrMoV 6
1.2365	X32CrMoV 3 3	1.2714	56NiCrMoV 7

Typical Weld Metal Composition (%)

C	Si	Mn	Cr	Mo	Fe
0.4	0.5	1.2	7.0	2.5	base

All Weld Metal Mechanical Properties

Hardness (as welded)
Approx. 53-58 HRC

Welding Current & Instructions

Electrode	ØxL (mm)	2,5x300	3,2x350	4,0x450
Current	(A)	60-90	80-110	100-140

Preheat the workpiece to 250-400℃ depending on thi ckness and alloy. Hold the electrode vertically with a short arc. Keep temperature during welding and let the workpiece cool slowly.
Subsequent machining is possible by grinding or with tungsten carbide tools.

1G/PA 2F/PB 2G/PC 3G/PF 4G/PE

= +,-	~ 70V

600HT

Hardfacing Electrode for metal/metal wear

TECO

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Classification

DIN 8555 : E3-UM-60-ST
EN 14700 : ~E Fe3

Description & Applications

Rutile coated electrode with a Cr-Mo-C martensitic steel deposit, resistant to metal/ metal wear up to 550℃. For all pieces subject to hot or cold metal abrasion, even in the presence of shocks and pressure.
As welded only machinable by grinding.
Soft fusion, no spatters, self releasing slag
Special applications: Hardfacing of shear blades, moulds, pressing and forging dies.

Typical Weld Metal Composition (%)

C	Si	Mn	Cr	Mo	Fe
0.5	0.7	0.5	6.0	5.0	base

All Weld Metal Mechanical Properties

Hardness
58–61 HRC
Obtained in pour weld metal

Welding Current & Instructions

Electrode	ØxL (mm)	2,5x350	3,2x350	4,0x450
Current	(A)	80	110	150

Redrying, if necessary, 1h/250℃.
Low alloyed, high carbon tool steels etc. have to be preheated to 250 – 450℃, depending on their composition and thickness. Slow cooling in still air after surfacing.

1G/PA 2F/PB 2G/PC 3G/PF 4G/PE

= +	~ 45V