

ES 33

SMAW

ESWECO
The Art of Welding

Type Basic

E 10-UM-65-Z

Description

ES 33 is a basic coated electrode that is highly resistant to abrasion wear caused by coarse hard minerals. It has a highly concentrated chromium carbide in its structure. ES 33 should be preferred for parts that are exposed to high impact. Preheating generally not required.

Metal recovery is approx... 220%.

Re-drying is 300-350 °C for min. 2h.

Typical application:

Crushers, Mixer blades, Digger teeth, Guides, Coal mining, buckets, pumps, screws, loaders, sand mining, cement industry, wear plates, etc.

It should not be used for more than three passes, interpass temperature should be 300-350°C.

Using a buffer layer with ES 307-17 for 12-14 % Mn steels before hardfacing.

Classifications

| | |
|---------------|--------------|
| SFA/AWS A5.13 | E FeCr-1 |
| EN 14700 | E Fe15 |
| DIN 8555 | E 10-UM 65-Z |

Typical all weld metal composition, %

| C | Cr | Fe | Other |
|------|------|------|-------|
| 4.50 | 33.0 | Rem. | 3.0 |

Typical mech. Properties all weld metal

| | |
|---------------|-------|
| Hardness, HRC | 60-63 |
|---------------|-------|

Current

AC, DC+ OCV 50 V



Welding parameters

| Diameter, mm | Length, mm | Welding current, A | Arc voltage, V |
|--------------|------------|--------------------|----------------|
| 3.2 | 350 | 115-170 | 30 |
| 4.0 | 350 | 120-200 | 33 |