CARBO WELD SCHWEISSMATERIALIEN GMBH

CARBO DURIT A

Standards

DIN 8555	E21-GF--45-GP
DIN EN 14700	T Fe20

Characteristics

CARBO DURIT A is a steel tube filled with fused tungsten carbides for the oxyacetylene welding process.
The weld metal consists in a tungsten-steel-matrix with embedded tungsten carbides. The extraordinary hardness of the fused tungsten carbides (WSC) of approx. 2300 HV imply the high build-up wear resistance.
The carbon content of the base metal should not exceed 0,45 % in order to avoid lack of fusion. However, the base material should have enough strength to avoid the penetration of the build-up in the base material.

Typical applications

It is to expect on-armour-platings of tools and machine parts in the mining, road construction, well digging, special civil engineering, depression drilling technology, where strongest abrasion by minerals may occur.

Recommendations for best welding results

To get a good result the welding areas should be properly cleaned of rust, grease, tinder and similar pollutions.
The burner nozzle should be held at a shallow angle to the work area with a neutral to slightly acetylene excess flame. To avoid overheating, the work area should be slightly wetted and the tube metal should not come into contact with the centre of the flame.
Depending on base material and size of the work piece preheating to 350-500°C (660-930°F) is recommended.
The selection of the grain size und the rod diameter depend on the application and the size of the tool to be hard faced.
Lower particle sizes are recommended when the wear from abrasion is dominant, bigger sizes for fitting a tool for stronger cutting strength.

Mechanical properties of all-weld metal (typical values)

Hardness of fused tungsten carbide HV
> 2300

Weld metal analysis (typical, wt. %)

Fe	WSC
ca. 40	ca. 60

Flux-cored wire equivalent

CARBO F- Durit Fe

Dia./Length	Grain size mm	Pcs./ packet	Pcs./ carton	kg / 1000	kg / packet	kg / carton
3,5 x 700	0,70 – 1,00	99	396	50,5	5,0	20,0
4,0 x 700	1,00 – 1,50	66	264	75,9	5,0	20,0
5,0 x 700	1,00 – 1,50	42	167	119,6	5,0	20,0

Other grain sizes are possible on request

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