

CDS CONSULTANTS

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COPPER SLAG TECHNICAL DATA SHEET

PRODUCT: CDS IRON SILICATE EXPENDABLE ABRASIVE

DESCRIPTION:

A synthetic mineral blasting abrasive manufactured by granulation in water of the slag arising from copper smelting processes. It is essentially an Iron Silicate with trace metals bound in an amorphous glass in the form of complex silicates and oxides.

CHEMICAL ANALYSIS:

Element	%
Silica as SiO ₂	33 - 38
Iron as FeO	38 - 45
Aluminium as Al ₂ O ₃	3 - 5
Titanium as TiO ₂	0.2 - 0.5
Calcium as CaO	2 - 6
Magnesium as MgO	1 - 3
Manganese as MnO	0.1 - 0.3
Sodium as Na ₂ O	0.5 - 1
Potassium as K ₂ O	0.4 - 0.6
Copper as CuO	0.3 - 0.8
Lead as PbO	0 - 0.04
Zinc as ZnO	1 - 2.5
Sulphur as S	0.8 - 1
Free silica	< 1

WATER SOLUBLE SALTS:

Conductivity of aqueous extract	<15 mS m ⁻¹
Chloride	<15 ppm

MECHANICAL ANALYSIS:

Hardness	7-8 Mohs
Apparent Density	3.5 kg dm ⁻³

Bulk Density
Grain Shape
Colour

1.7 kg dm⁻³
Angular
Black, glassy

GRADES AVAILABLE:

Grade	Size range (mm)	surface profile achievable on mild Steel (BS 7079)
1	- 0.4	less than fine
2	0.15 - 0.85	fine
3	0.20 - 1.70	medium
4	0.5 - 2.00	coarse
5	0.2 - 2.5	coarse
6	0.5 - 2.5	coarse

ABRASIVE PERFORMANCE:

Grades 2 – 6 are all capable of achieving a cleanliness standard of Sa3. On mild steel plate with moderate rust/millscale CDS Grade 3 is capable of achieving coverages of 25 – 30 m²/tonne to Sa2.5. The coverage achieved will be dependent on factors such as pressure at the nozzle, nozzle diameter, grit valve setting and the skill of the operator.

INDUSTRY STANDARDS:

CDS iron silicate abrasives are manufactured to conform to ISO 11 126 -3 and BS 7079 (1989). Please note that our size ranges may vary from sizes quoted in the above standards.

PACKAGING:

CDS expendable abrasive is packed in 50kg multi -wall paper sacks and shrink - wrapped on pallets, 1.5 tonnes per pallet. Pallets are non -returnable. Alternative packaging is available upon request and includes 25 kg multi -wall paper sacks, 1.5 tonne bulk bags and bulk tanker delivery.

AVAILABILITY:

CDS expendable abrasive is available from stock at the Immingham depots and from distribution points throughout the UK. Deliveries of 20/24 tonnes can normally be made to most parts of the country within 24 hours.

HEALTH & SAFETY:

CDS expendable abrasive has been approved by the U.K. Health & Safety Executive for use as a blasting abrasive. CDS iron silicate abrasives, as supplied, do not present any hazard to health. Under the Control of Substances Hazardous to Health Regulations 1988; Statutory Instrument No. 1657, the user is required to ensure that personal exposure to the dust generated during blasting operations is limited to 10mg m⁻³ 8-hour TWA total inhalable dust or 5mg m⁻³ 8-hour TWA total

respirable dust. Some coatings may contain components which have their own assigned occupational exposure limits, all relevant limits should be complied with.

FIRST AID:

Eye contact:	Irrigate with sterile eye wash
Skin contact:	Wash with water
Ingestion:	Nontoxic

HANDLING & STORAGE:

The pallets supplied are suitable for handling using fork -lift trucks.
The pallets should not be handled using strops slung from a crane.
The pallets should not be stacked more than two high.
The material should be kept dry.

DISPOSAL:

Spent abrasive must be disposed of in accordance with the Environmental Protection Act 1990 and the Control of Pollution Act 1974. While there are no special requirements for the disposal of the material as supplied, the spent abrasive will contain other materials, derived from the substrate being cleaned, which may be classed as Notifiable or Special under the above legislation.

FURTHER INFORMATION:

Specific enquiries relating to abrasive selection and application or health and safety matters may be directed to:

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