AEPCO
Auto Electric Products Co.
Coating Division

PRODUCT DATA SHEET

THERMAL POWDER

Energy saving, heat retaining and high emissivity powder

Description

Thermal Powder is produced by finely grained heat resistant materials mixed in proper proportion to form a superior quality refractory mix. When spread on furnace bed, it provides ***Uniform Heating Zone*** in the furnace with high temperature retention and emission. Initially it absorbs heat energy and retains it for a long time. With a difference in temperature, retained heat is radiated providing additional heat to the furnace, which results in faster rise in temperature and thereby creating uniform temperature zone throughout the furnace. Long heat retention characteristic of Thermal Powder makes it very useful from the point of view of ***energy conservation***.

Salient Features

- Thermal Powder color changes to white after attaining temperature if 700^0 C $\pm$ 10% and remains white throughout.
- Thermal shock resistant and does not disintegrate despite any number of thermal shocks and is stable up to 2000^0 C.
- Doesn't allow clinker fusion at the furnace bottom lining:
  - It acts as a soft barrier between clinker and furnace bottom bricks. It also absorbs direct mechanical impact on bed bricks and prevents damage to the furnace bed; therefore increases life of the furnace bed.
- Retains heat for long time and increases thermal inertia.
  - Acts as energy radiator and this increases it's usage in heat treatment process.
  - It provides additional absorbed heat for long time to maintain long thermal inertia.
- Doesn't allow furnace to cool down, which means rate of cooling is minimum.
- Saves operational time/ process time.
- Saves energy (power/fuel).
- Acts as shock absorbent and prevents damage to furnace bottom.
- Helps maintain uniform temperature in the furnace operation.
- Helps manufacture superior quality heat treatment products with minimum expenditure and time while maintaining desired temperature with minimal energy consumption, which means economical heat treatment.
- Results in saving of 'process time' and 'energy', depending upon individual application parameters.

Scope of Application

- Heat treatment furnace.
- Induction furnace.
- Boiler beds.
- Heavy duty casting heat treatment furnace.
- High temperature ovens.
- Reheating furnace.

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Technical Specification

1.	Density	3.6 to 3.65 Kg/Liter.
2.	Colour	Gray up to 600^0 C and changes to white after 650^0 C
3.	Temperature	Up to 2000^0 C.
4.	Effect of acid/alkali	No effect
5.	Absorption	Non-wetting / Non-sticky against molten metal
6.	Thermal Conductivity	Semi thermal conducting (standard coating is 40% thermal conducting but it can be varied)
7.	Chemical reactivity	Neutral against acidic and alkaline solutions/liquid.
8.	Electrical conductivity	Bad conductor of electricity (Highly insulating).
9.	Storage	No effect on powder at ambient temperature
10.	Shelf life	1 year
11.	Thickness	Varies with different application and service temperature.
12.	Toxicity	Non-toxic.

Note: In most of the applications Thermal Powder is used along with Thermoplast-1800.

Designed and developed by:
A.P Patki
Innovator of New Generation High Temperature Coatings

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