TECHNICAL DATA SHEET

IRON OXIDE PIGMENTS

General Industrial Use - Building, Construction & Concrete Applications

PRODUCT DESCRIPTION

This is a general Technical Data Sheet that applies to the full color range offered by Synergy Pigments, covering all standard and custom iron oxide pigment products.

Iron oxide pigments are synthetic or natural inorganic colorants widely used across various industries for their excellent tinting strength, stability, and durability. This product line is specifically designed to meet the performance requirements of the building and construction sector, including applications in concrete, mortars, pavers, stuccos, paints, coatings, and plastics.

KEY FEATURES

- High tinting strength and color consistency
- Chemically stable and non-reactive
- Non-toxic, non-staining, and environmentally friendly
- Excellent UV and weather resistance
- Compatible with cementitious systems
- Resistant to alkali and mildly acidic environments

APPLICATIONS

Concrete and Cement Products	Precast concrete, ready-mix concrete, masonry blocks, roof tiles, paving stones, and decorative concrete
Mortars and Grouts	Colored mortar, tile grout, and render
Construction Materials	Fiber cement products, terrazzo, stucco, and shotcrete
Coatings and Paints	Emulsion and solvent-based coatings for interior and exterior use
Plastics and Polymers	Coloration of polymer-based construction products

TYPICAL PRODUCT RANGE

Color	Common Name	CI Pigment No.
Red	Red Iron Oxide	Pigment Red 101
Yellow	Yellow Iron Oxide	Pigment Yellow 42
Black	Black Iron Oxide	Pigment Black 11
Brown	Brown Iron Oxide Mix	Blend of PR101/PY42
Orange	Orange Iron Oxide	Custom blends

Custom blends available upon request for specific shades or color matching.

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TECHNICAL SPECIFICATIONS (TYPICAL VALUES AND AVERAGE TOLERANCES)

Property	Average Value	Typical Tolerance Range
Appearance	Fine powder	-
Color Difference (ΔE)	0.54	≤ 1.0
Tinting Strength (%)	100.8	95-105%
Oil Absorption (g/100g)	22.6	15-25 (some yellow: 25-35)
Moisture Content (%)	0.6	≤ 1.0-1.5
pH Value	6.6	3-8
Water Soluble Matter (%)	0.22	≤ 0.4
Fe_2O_3/Fe_3O_4 Content (%)	89.7	≥ 75-98%
Specific Gravity	4.0-5.2	-
Bulk Density	0.3-1.0 g/cm³ (depending on type)	-
Heat Resistance	Up to 800°C (depending on color)	-
Water Solubility	Insoluble	-
Lightfastness	8 (Excellent - Blue Wool Scale)	-
Weather Resistance	Excellent	-

PACKAGING

- Standard: 5 kg to 20 kg paper or polyethylene bags
- Bulk: 500 kg - 1000 kg big bags or as per customer requirement
- Custom packaging available upon request

STORAGE & HANDLING

- Store in a cool, dry place away from direct sunlight and moisture
- Reseal opened containers to avoid contamination or caking
- Use appropriate dust control methods during handling

HEALTH & SAFETY

Iron oxide pigments are non-toxic and classified as non-hazardous under normal use. Always refer to the **Safety Data Sheet (SDS)** for detailed handling and personal protective equipment guidelines.

REGULATORY COMPLIANCE

- Complies with EU REACH regulations
- RoHS compliant
- Suitable for use in eco-labeled building products