

TINOX A-2580 Anatase Titanium Dioxide · Polyester Fibre Grade

Technical Data Sheet · Revision 2 · October 2026

TINOX A-2580 is a high-purity anatase titanium dioxide pigment produced by the sulphate process, finished with an aluminium-based inorganic coating and an organic treatment. It is engineered as a delustrant for polyester fibers and filaments and for polyester chip and masterbatch production. With a TiO₂ content of at least 98 % it meets type A1 of ISO 591-1. A high water dispersibility, a very low coarse-particle content and a clean, slightly bluish white make it suitable for the glycol or water slurry route as well as for highly loaded masterbatches.

• Main applications

- Matting of polyester (PET) fibers and filaments — POY, FDY, DTY and staple fibre, semi-dull and full dull
- Polyester chips for textile and technical applications
- White and colour masterbatches for polyester fibers
- Viscose and acetate fibers

• Properties

- High purity — TiO₂ content of at least 98 %, corresponding to type A1 of ISO 591-1
- Efficient and uniform delustering with a clean, slightly bluish white (typical b value close to zero)
- High water dispersibility, supporting stable glycol and water slurry preparation with a low tendency to re-agglomerate
- Very low coarse-particle content, which helps to keep filter pressure rise and spin-pack replacement intervals under control
- Low iron content for a bright polymer with low yellowness
- Low abrasion on spinnerets, guides and textile machinery, as is characteristic of anatase pigments

• Product specification

Item	Specification	Typical	Test method
Crystal form	Anatase	Anatase	X-ray diffraction
Appearance	White powder	—	Visual
TiO ₂ content [%]	≥ 98.0	98.4	ISO 591-1
Colour, L	≥ 98.0	98.2	ISO 787-25
Colour, b	≤ 1.0	– 0.03	ISO 787-25
Water dispersibility [%]	≥ 90	96	Manufacturer's method
Resistivity, aqueous extract [Ω·m]	≥ 50	70	ISO 787-14
pH value, aqueous suspension	6.0 – 8.0	7.3	ISO 787-9
Matter volatile at 105 °C [%]	≤ 0.3	0.18	ISO 787-2
Residue on sieve, 45 µm [%]	≤ 0.015	0.008	ISO 787-7
Iron, as Fe [ppm]	≤ 45	18	XRF spectrometry
Inorganic surface treatment	Al	—	—
Organic surface treatment	Present	—	—

Specification values are the guaranteed limits for each lot. Typical values are indicative and do not form part of the specification. Lot-specific results are given in the Certificate of Analysis. Where no ISO method exists for a property, the manufacturer's own method is used and is available on request.

• Water dispersibility

Water dispersibility expresses the proportion of pigment that remains in stable suspension after a defined settling period, and is the laboratory indicator most closely related to slurry stability in the plant. It is determined by shaking a 5 % aqueous suspension, drawing the upper layer before and after a five-hour settling period, and comparing the dry solids content of the two fractions. The full method is available on request.

• Identification

Standard classification	Colour Index	CAS No.	EINECS No.
ISO 591-1, type A1	Pigment White 6 (77891)	13463-67-7	236-675-5

• Recommended dosage

Application	Dosage [% by mass]	Remarks
Semi-dull polyester fiber	0.2 – 0.5	Added as a glycol or water slurry during polymerisation

Application	Dosage [% by mass]	Remarks
Full dull polyester fiber	1.5 – 2.5	For a strong matte, cotton-like appearance
Polyester chips	0.2 – 2.5	According to the luster grade produced
Fiber masterbatch	30 – 50	High-concentration polyester masterbatch

The dosage depends on the polymer system, the process and the matting level required. A laboratory trial under the customer's own conditions is recommended before first use.

● Packaging, storage and handling

- Packaging: 25.0 ± 0.1 kg woven bags with an inner plastic liner, moisture-sealed. Other packaging on request.
- Storage: keep in the original closed packaging in a dry, ventilated and cool store, away from acids, alkalis and oxidising agents; avoid moisture and stacking pressure.
- Transport: handle with care, protect from rain and direct sunlight; vehicles must be clean and dry.
- Handling: the product is a fine powder. Avoid dust formation, provide adequate ventilation, and wear a dust mask and safety glasses. Please consult the Safety Data Sheet before handling.

● Quality assurance

Raw materials are released by incoming batch testing; the process is monitored by a DCS control system; every lot undergoes full-item inspection before dispatch; retained samples are kept for six months to allow re-inspection and traceability.

All information is based on data obtained from the manufacturer or recognised technical sources and reflects our present knowledge. It does not constitute a warranty or guarantee of properties, nor of suitability for a particular purpose. The user remains responsible for testing the product under its own conditions and for compliance with all applicable laws and regulations.

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