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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 788

ULTRAMARINE PIGMENTS

1st EDITION

July 1968

For each individual country the only valid standard is the national standard of that country.

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BRIEF HISTORY

The ISO Recommendation R 788, *Ultramarine pigments,* was drawn up by Technical Committee ISO/TC 35, *Paints, varnishes and related products and their raw materials,* the Secretariat of which is held by the Nederlands Normalisatie-Instituute (NNI).

Work on this question by the Technical Committee began in 1955 and led, in 1965, to the adoption of a Draft ISO Recommendation.

In April 1967, this Draft ISO Recommendation (No. 983) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Italy	Sweden
Denmark	Netherlands	Switzerland
France	New Zealand	Turkey
Germany	Portugal	United Kingdom
India	South Africa, Rep. of	Yugoslavia
Iran	Spain	
Israel		

One Member Body opposed the approval of the Draft :

Japan

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in July 1968, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 788 July 1968

ULTRAMARINE PIGMENTS

1. SCOPE

This ISO Recommendation lays down the characteristics and methods of test of artificial ultramarine pigments, usually delivered for use in the paint industry in the form of a powder.

2. DESCRIPTION

Ultramarine pigments. Mineral pigments characterized by the presence of metalloids such as sulphur, incorporated in a complex of aluminium sodium silicates.

The material should be in the form of a soft dry powder or in such a condition that it may be readily reduced thereto by crushing under a palette knife, without grinding action.

NOTE. – The presence of small quantities of extenders added to adjust the tinting strength is permitted.

3. CLASSIFICATION

The following categories of pigments are distinguished according to their maximum free sulphur content :

– category A : 0.5 % maximum free sulphur,

– category B : 0.1 % maximum free sulphur.

4. REQUIRED CHARACTERISTICS AND THEIR TOLERANCES

Ultramarine pigments should have the following characteristics :

Characteristics	Requirements	Test methods
Relative density at 20 °C	Min. 2.23 Max. 2.40	At present under study
Colour	In accordance with that of an agreed sample	See ISO/R 787, * Part I
Relative tinting strength (Note 1)	In accordance with that of an agreed sample (Note 2)	At present under study
Matter volatile at 105 °C	1 % max.	See ISO/R 787, * Part II
Matter soluble in hot water	1.5 % max.	See ISO/R 787, * Part III
Residue on sieve (water method) of mesh aperture 63 μm	0.5 % max.	See ISO/R 787, * Part VII
Soluble organic colouring matter	Negative test	See clause 6.1
Free sulphur	Category A 0.5 % max. Category B 0.1 % max.	See clause 6.2
Oil absorption value (Note 3)	Within the range of ± 10 % of the value of an agreed sample	See ISO/R 787, * Part V

NOTES

1. When the ultramarine pigment is intended for use as a standard coloured pigment in the determination of the lightening power of white pigments, it should be subjected to this test with each type of white pigment.
2. The tolerance of the relative tinting strength should be fixed by agreement between purchaser and vendor.
3. The oil absorption value of ordinary commercial grades is usually between 30 and 40 ml per 100 g of pigment.

5. SAMPLING

A representative sample of the pigment should be taken in accordance with ISO Recommendation R 842, *Sampling raw materials for paints and varnishes.*

6. TEST METHODS

6.1 Test for soluble organic colouring matter

6.1.1 *Reagents*

6.1.1.1 *Ethanol*, 95 % (v/v).

6.1.1.2 *Acetic acid*, glacial.

6.1.1.3 *Sodium hydroxide solution*, 4N.

* *General methods of test for pigments.*