

Specification for

Raw, refined and boiled linseed oils for paints and varnishes

[ISO title: Raw, refined and boiled linseed oil for paints and
varnishes — Specifications and methods of test]

UDC 667.621.52:620.1

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW



Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Pigments, Paints and Varnishes Standards Committee (PVC/-) to Technical Committee PVC/3, upon which the following bodies were represented:

- British Resin Manufacturers' Association
- Fosfa International
- Oil and Colour Chemists' Association
- Overseas Development Administration — Tropical Development and Research Institute
- Paint Research Association
- Paintmakers' Association of Great Britain Ltd.
- Seed Crushers' and Oil Processors' Association

This British Standard, having been prepared under the direction of the Pigments, Paints and Varnishes Standards Committee, was published under the authority of the Board of BSI and comes into effect on 23 December 1987

© BSI 12-1999

The following BSI references relate to the work on this standard:
Committee reference PVC/3
Draft for comment 78/51957 DC

ISBN 0 580 16184 6

Amendments issued since publication

Amd. No.	Date of issue	Comments

Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
1 Scope and field of application	1
2 References	1
3 Definitions	1
4 Required characteristics and their tolerances	1
5 Sampling	1
6 Density	3
7 Refractive index	3
8 Clarity	3
9 Volatile matter	3
10 Ash	3
11 Foots	4
12 Phosphoric acid test (PAT) value	5
13 Drying time	7
14 Liebermann-Storch-Morawski test for presence of colophony	7
15 Test for presence of fish oil	7
16 Test for presence of mineral acid	8
17 Assessment of break in alkali-refined linseed oils	8
18 Colour after heating	8
19 Test report	9
Annex Determination of the unsaponifiable matter (Diethyl ether method)	10
Figure 1 — Pear-shaped sediment tube	4
Figure 2 — Cone-shaped sediment tube	4
Figure 3 — Pear-shaped centrifuge tube	5
Table 1 — Required characteristics and their tolerances	2
Table 2 — Rotational frequencies applicable to centrifuges of various diameters of swing	6
Publications referred to	Inside back cover

National foreword

This British Standard has been prepared under the direction of the Pigments, Paints and Varnishes Standards Committee. It is identical with ISO 150:1980 “*Raw, refined and boiled linseed oil for paints and varnishes — Specifications and methods of test*”, published by the International Organization for Standardization (ISO). This standard supersedes and constitutes a revision of BS 242, BS 243, BS 259, BS 632:1969, which is withdrawn.

BS 242, BS 243 and BS 259 were first published as separate standards in 1926 and BS 632 was first published in 1935. The first revision of BS 242 and BS 243 and the second revisions of BS 259 and BS 632 combined the four standards in 1969. This revision of the combined publication brings the standard in line with international agreements by dual-numbering the International Standard which includes requirements for raw, alkali-refined, acid-refined and boiled linseed oil. Although these four grades are comparable to those specified earlier, they cannot be aligned exactly with the superseded British Standards. It is considered there is now no need to retain those separate identities for the linseed oil grades by retaining the four BS numbers and the opportunity has been taken to implement ISO 150 by issuing a new standard with a single number. The main changes in this edition are as follows:

- a) the density and refractive index measurements are carried out at 23 °C;
- b) the drying times for raw and refined oils are not specified;
- c) the maximum ash content for raw linseed oil has been reduced to 0.15 % (m/m) from 0.25 % (m/m);
- d) the colour of raw and refined oils, which previously were subject to agreement only, are now specified;
- e) the acid value of alkali-refined linseed oil has been reduced to 0.5 % from 4 %.

Terminology and conventions. The text of the International Standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

The symbol “l” has been used to denote litre (and in its submultiples). In British Standards it is current practice to use the symbol “L”.

Wherever the words “International Standard” appear, referring to this standard, they should be read as “British Standard”.

Cross-references

International Standard	Corresponding British Standard
	BS 700 <i>Graduated pipettes</i>
ISO 835:1981 ^a	Part 1:1982 <i>Specification for general requirements</i> (Identical)
	Part 2:1982 <i>Specification for pipettes for which no waiting time is specified</i> (Identical)
	Part 3:1982 <i>Specification for blow-out pipettes</i> (Identical)
ISO 842:1984	BS 4726:1986 <i>Methods for sampling raw materials for paints and varnishes</i> (Identical)

^a Footnote 1) to clause 2 is no longer applicable as a revision, in four parts, of ISO/R 835 has now been published.

International Standard	Corresponding British Standard
ISO 1517:1973	BS 3900 <i>Methods of test for paints</i> Part C2:1971 <i>Surface-drying test (ballotini method)</i> (Technically equivalent)
ISO 1773:1976	BS 2734:1984 <i>Specification for boiling flasks (narrow-necked), conical, flat bottom and round bottom</i> (Identical)
ISO 3681:1983	BS 6782 <i>Binders for paints</i> Part 2:1987 <i>Method for determination of saponification value (titrimetric method)</i> (Identical)
ISO 3682:1983	Part 3:1987 <i>Method for determination of acid value (titrimetric method)</i> (Identical)
ISO 3838:1983 ¹⁾	BS 4699:1985 <i>Methods for determination of density or relative density of petroleum and petroleum products (pycnometer methods)</i> (Identical)
ISO 3961:1979 ¹⁾	BS 684 <i>Methods of analysis of fats and fatty oils</i> Part 2: <i>Other methods</i> Section 2.13:1981 <i>Determination of iodine value</i> (Identical)
ISO 4630:1981 ¹⁾	BS 6782 <i>Binders for paints</i> Part 5:1987 <i>Method for estimation of colour of clear liquids by the Gardner colour scale</i> (Identical)
ISO 4793:1980 ¹⁾	BS 1752:1983 <i>Specification for laboratory sintered or fritted filters including porosity grading</i> (Identical)

The Technical Committee has reviewed the provisions of ISO 5661, to which reference is made in the text, and has decided that they are acceptable for use in conjunction with this standard. A related British Standard to ¹⁾ISO 5661:1983 is BS 684 “*Methods of analysis of fats and fatty oils*”, Part 1 “*Physical methods*”, Section 1.2:1984 “*Determination of refractive index*”, which gives a suitable procedure except that, for compliance with this standard, the test should be carried out at 23 °C.

Additional information. In order to carry out some of the tests described in this standard it is necessary for certain conditions, requirements and alternative standards of assessment to be supplied or agreed by the parties concerned (see Table 1).

¹⁾ Footnote 2) to clause 2 is no longer applicable as these International Standards have now been published.

The Technical Committee has considered the use of centrifuge tubes specified in **12.3.3** and illustrated in Figure 3. As these are not generally available and have to be specially made it is recommended that sediment tubes specified in **11.2** and illustrated in Figure 2 are substituted, having been found to give comparable results.

In the “break” test (see **17.5**) the 6 to 8 drops of hydrochloric acid may be replaced by 2 drops of glycerol.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.