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BRITISH STANDARD 148 : 1959

UDC 621.315.615.2

Amend. 1
2

INSULATING OIL

FOR TRANSFORMERS AND SWITCHGEAR

Endorsement September 1965

BRITISH STANDARD 148 : 1959
(including the amendment PD5358 of October 1964
and as subsequently incorporated)
is endorsed as

AUSTRALIAN STANDARD C62—1965

subject to Australian Amendment No. 1

This endorsement of B.S.148:1959 supersedes the endorsement of the 1933 edition which was issued as AS C62-1935.
The endorsement was recommended by Committee EL/8, Static Electrical Machinery, after investigation by a special sub-committee of representatives of electric power equipment and oil manufacturing interests. It was approved on behalf of the Council of the Standards Association of Australia on 9 September 1965.

STANDARDS ASSOCIATION OF AUSTRALIA
Science House, 157 Gloucester Street, Sydney

BR

PD 5772

Amendment No. 2, published 3 March, 1966

to B.S. 148 : 1959

Insulating oil for transformers and switchgear

Revision

EXPLANATORY NOTE. The amendment to the specified viscosity does not represent any change in the viscosity level permitted by the specification. It merely substitutes the recognised temperature of 20°C, *for viscosity measurements expressed in centistoke units, for the* 21·1°C *at present laid down, which latter is a relic of the use of the Redwood viscometer, for which* 70°F (21·1°C) *was a standard test temperature.*

The change from 37 *cS max. to* 38 *cS max. represents, to the nearest integer, the viscosity increase corresponding to a decrease in the temperature of measurement from* 21·1°C *to* 20°C.

Foreword. After the third paragraph add the following new paragraph:

'In order to gain experience with the IEC methods of test for oxidation stability and electric strength (Note 2) their use is proposed, as an addition to the existing B.S. 148 methods, in Note *h* added to the Table in Clause 3.'

In the last paragraph delete 'British Electrical and Allied Industries Research Association' and substitute 'Electrical Research Association'.

Clause 3. Characteristics. *Schedule of Characteristics.* Fourth line, first column, delete '70°F (21·1°C)' and substitute '20°C'; in the second column, delete '37cS*' and substitute '38cS'.

Delete footnote against asterisk.

In the column headed 'Notes', add a comma and the letter '*h*' against the entries for 'Sludge value (max)', 'Acidity after oxidation (max)', and 'Electric strength 1 minute (min)'.

Add the following after Note *g*:

'NOTE *h*. The International Electrotechnical Commission has published test methods for the determination of oxidation stability (IEC Publication 74: Method for assessing the oxidation stability of insulating oils, Second Edition, 1963) and electric strength (IEC Publication 156: Method for the determination of the electric strength of insulating oils, 1963). It is hoped that eventually these IEC methods will be used instead of those described in Appendix B and Appendix F respectively.

To gain experience of the IEC methods it is recommended that, wherever possible, comparative tests thereby and by the methods specified in Appendix B or Appendix F of this standard are conducted and recorded for reference.

Tentative maximum values suggested for the IEC method for oxidation stability are 0·5 mgKOH/g for acidity and 0·15 per cent for sludge.

Tentative minimum values suggested for the IEC method for determination of electric strength are 30 kV for oil delivered in bulk and 27 kV for oil delivered in drums.

Nevertheless, only the results of tests made by the methods in Appendices B and F are valid for verifying compliance of oils with this standard.'

Note on the Appendices (immediately preceding Appendix A). Delete the note and substitute the following:

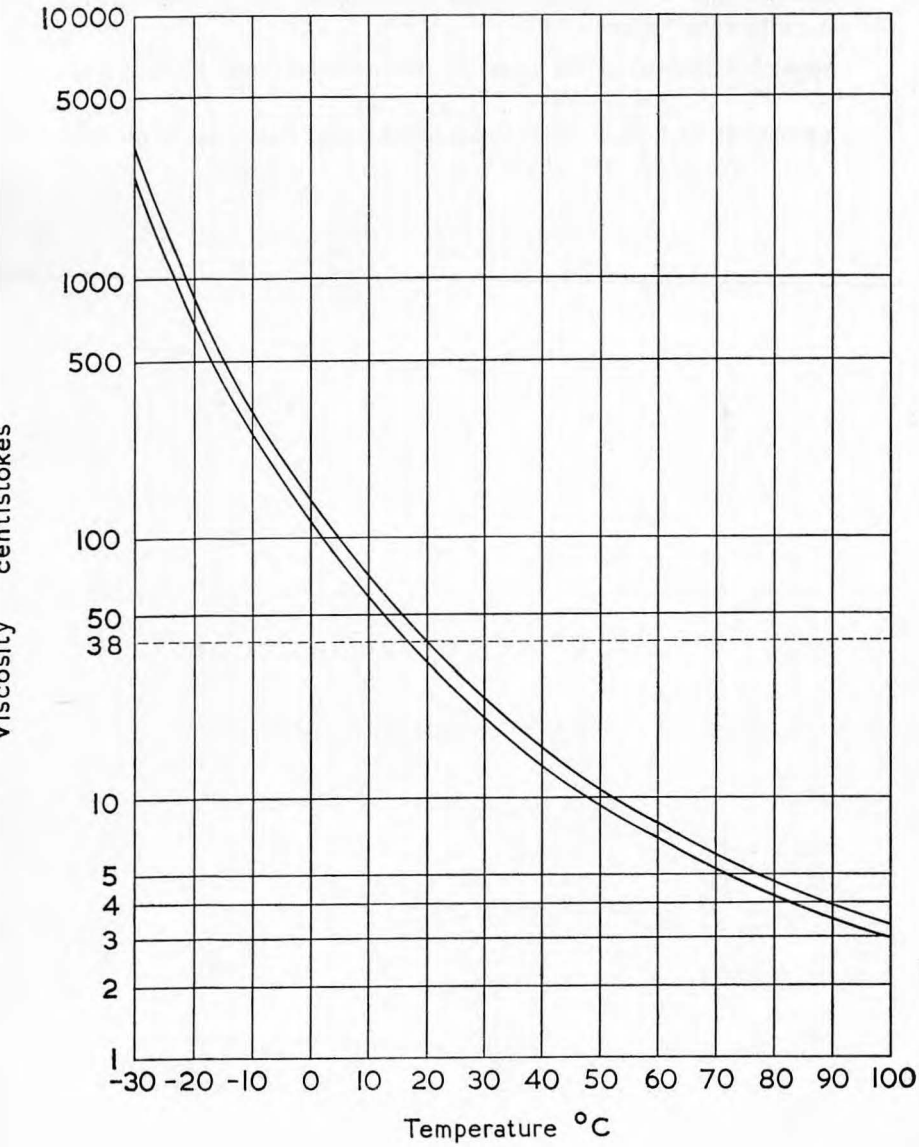
'Certain of the following appendices are based on 'IP Standards for Petroleum and its Products', 1965 edition, published by the Institute of Petroleum.'

Appendix A. Sampling insulating oil. Delete the IP method number '51/58' and substitute '51/62'.

Appendix B. Oxidation test. Delete the IP method number '56/57' and substitute '56/64'. *Subsection h. Thermometer.* Delete 'L' and substitute 'M'.

Appendix C. Method for determination of flash-point (closed) by means of the Pensky-Martens apparatus. Delete '(ASTM D93-52)'. *Subsection* 2*c.* Delete 'Appendix L' and substitute 'Appendix M'. *Subsection* 2*e.* Delete '60 rev/min' and substitute '1-2 rev/s'.

Appendix D. Method of test for viscosity. *Figure 9. Viscosity temperature curves for typical oils to this standard.* Delete this figure and substitute the following new figure:



In the note below Fig. 9, delete '37 cS at 70°F (21.1°C)' and substitute '38 cS at 20°C'. Delete '32 cS at 70°F (21.1°C)' and substitute '33 cS at 20°C.'

Appendix E. Method of test for pour point. Delete the IP number, '15/55', and substitute '15/65'. *Subsection 2b. Thermometer.* Delete 'Appendix L' and substitute 'Appendix M'.

Appendix G. Method of test for acidity (neutralization value). Delete the IP number, '1/58', and substitute '1/64'.

Appendix H. Method of test for saponification value. Delete the IP number '136A/158' and substitute '136A/65'.