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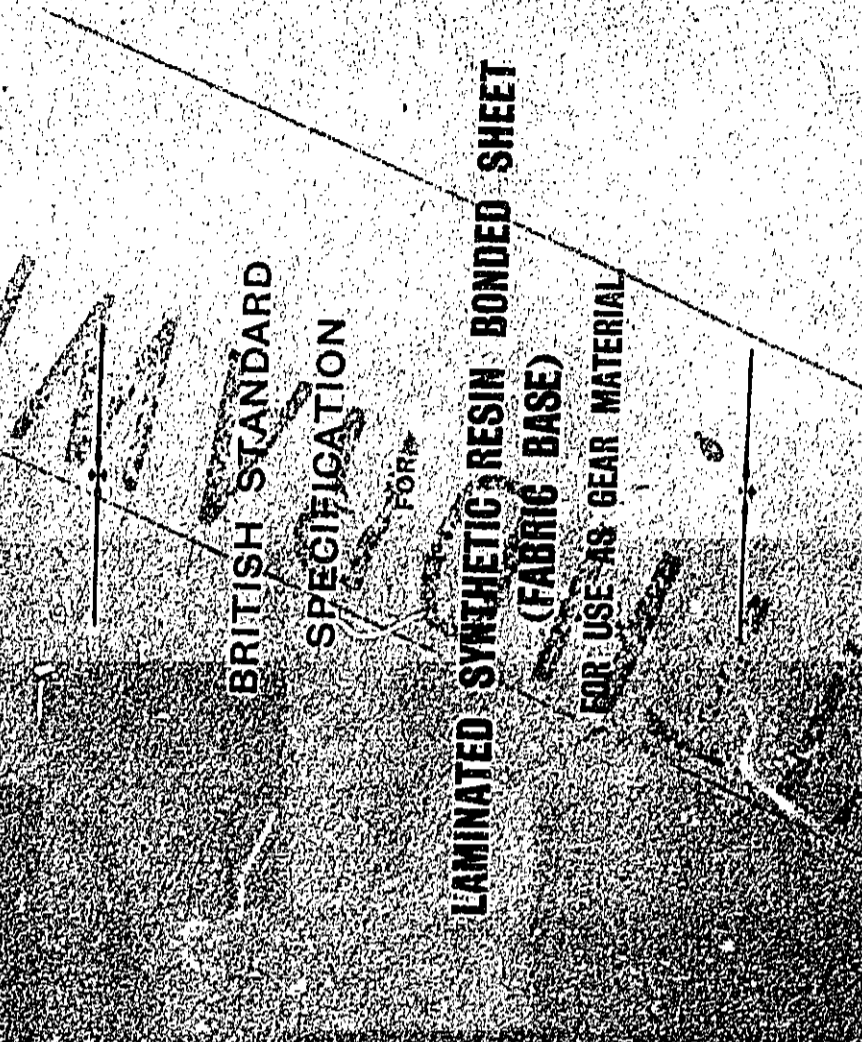
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British Standards Institution.

Incorporated by Royal Charter.

FORMED IN 1901 AS THE ENGINEERING STANDARDS COMMITTEE.

(INCORPORATED IN 1918 AS THE BRITISH ENGINEERING STANDARDS ASSOCIATION.)



BRITISH STANDARD  
SPECIFICATION

LAMINATED SYNTHETIC RESIN BONDED SHEET  
(FABRIC BASE)

FOR USE AS GEAR MATERIAL

LONDON  
PUBLISHED BY THE BRITISH STANDARDS INSTITUTION,  
PUBLICATIONS DEPARTMENT,  
25, VICTORIA STREET, LONDON, S.W.1.  
General Standards, Lowest, London.

March 1936

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No. 668—1936.

## British Standards Institution. Incorporated by Royal Charter.

FORMED IN 1901 AS THE ENGINEERING STANDARDS COMMITTEE.  
INCORPORATED IN 1918 AS THE BRITISH ENGINEERING STANDARDS ASSOCIATION.

The Mechanical Industry Committee under whose supervision this Specification was prepared consists of representatives from the following Government Departments and Scientific and Industrial Organisations:—

Admiralty.  
Crown Agents for the Colonies.  
Department of Scientific and Industrial Research.  
High Commissioner for India.  
Home Office.  
Ministry of Transport.  
Office of Works.  
Agricultural Engineers' Association.  
British Chemical Plant Manufacturers' Association.  
\*British Electrical and Allied Manufacturers' Association.  
\*British Engineers' Association.  
British Iron and Steel Federation.  
British Marine Oil Engine Manufacturers' Association.  
Engineering Insurance Companies.  
\*Institute of Marine Engineers.  
Institution of Automobile Engineers.  
Institution of Gas Engineers.  
Institution of Heating and Ventilating Engineers.  
\*Institution of Mechanical Engineers.  
Institution of Petroleum Technologists.  
Locomotive Manufacturers' Association.  
\*Machine Tool Trades' Association.  
Railway Companies of Great Britain.

The Scientific and Industrial Organisations marked with an asterisk in the above list, together with the following, were directly represented on the Committee entrusted with the preparation of this Specification:—

National Physical Laboratory.  
Association of Mining Electrical Engineers.  
Association of British Driving Chain Manufacturers.  
Association of Drop Forgers and Stampers.  
North-East Coast Institution of Engineers and Shipbuilders.  
Gear Makers.  
Oil Companies.  
Makers of Laminated Synthetic Resin Bonded Sheet.

*This Specification, having been approved by the Mechanical Industry Committee and endorsed by the Chairman of the Engineering Divisional Council, was published by the authority of the General Council as a British Standard on 30th March, 1936.*

### NOTE.

In order to keep abreast of progress in the Industries concerned, the British Standard Specifications are subjected to periodical review. Suggestions for improvements, addressed to the British Standards Institution, 28, Victoria Street, London, S.W.1, will be welcomed at all times. They will be recorded, and in due course brought to the notice of the Committees charged with the revision of the Specifications to which they refer.

## BRITISH STANDARD SPECIFICATION

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## NOTE.

This Specification includes reference to the following British Standard Specification:—

No. 148. Insulating Oils for Electrical Purposes (Excluding Cables).

( 4 )

**FOREWORD.**

This Specification provides for synthetic resin fabric gear material of a type which is now being increasingly used for gears for general engineering purposes.

As a result of the development of this material there has been a demand for reliable data with regard to its properties together with standard methods of test by which they may be determined.

The test results given in this Specification refer to a quality of material which is considered suitable for gears for normal duty. Where gears are required for special purposes it may be necessary to modify the test figures accordingly.

The desirability of providing for other types of this class of material will be considered at an early date when the Specification comes up for review.

It is intended that this Specification should be used in conjunction with the British Standard Specifications for Gears, viz. B.S.S. Nos. 436 and 545.

( 5 )

*NOTE.*—The Institution desires to call attention to the fact that this Specification is intended to include the technical provisions necessary for the supply of material herein referred to, but does not purport to include all the necessary provisions of a contract.

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**BRITISH STANDARD  
SPECIFICATION**

FOR

**LAMINATED SYNTHETIC RESIN BONDED SHEET  
(FABRIC BASE)**

FOR USE AS GEAR MATERIAL.

10

**SCOPE.**

Scope.

1. This Specification covers one grade of laminated synthetic resin bonded sheet from  $\frac{1}{2}$  inch to 4 inches in thickness having medium to high mechanical strength and wearing properties, good 15 machining characteristics, low moisture and oil absorption, with consequent small tendency to swell, and with the added advantage of silence when meshing with metal gears. This grade is suitable for the production of high-class gears by the usual engineering 20 methods having teeth 16 D.P. or larger.

**DEFINITIONS.**

Definitions.

2. (a) The term *Laminated Synthetic Resin Bonded Sheet (Fabric Base) for Use as Gear Material*, hereinafter in this Specification called *sheet*, denotes a sheet or board or block of material made by 25 superimposing layers of woven fabric treated with synthetic resin and heavily pressing them between hot metal plates until suitably solidified and cured to a permanent infusible state.

(b) The term *synthetic-resin* herein denotes a synthetic thermosetting resinoid which becomes hard, infusible and insoluble in 30 water or oil after being properly cured by heat and pressure.

(c) For the purpose of this Specification a *gear blank* is a square or a circle sawn from a sheet.