

Specification for

Gear hobbing machines for turbines and similar drives

Co-operating organizations

The Mechanical Engineering Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:—

Admiralty*	High Commission of India
Air Ministry	Institute of Marine Engineers
Associated Offices Technical Committee	Institute of Petroleum
Association of Consulting Engineers	Institution of Civil Engineers
(Incorporated)	Institution of Gas Engineers
British Chemical Plant Manufacturers’ Association	Institution of Heating and Ventilating Engineers
British Compressed Air Society	Institution of Mechanical Engineers*
British Electrical and Allied Manufacturers’ Association*	Institution of Mechanical Engineers (Automobile Division)
British Electricity Authority and Area Boards	Institution of Production Engineers*
British Engineers’ Association	Locomotive Manufacturers’ Association
British Internal Combustion Engine Manufacturers’ Association	Machine Tool Trades Association*
British Iron and Steel Federation	Ministry of Fuel and Power
British Railways, The British Transport Commission	Ministry of Labour and National Service (Factory Department)
Crown Agents for the Colonies	Ministry of Supply*
D.S.I.R. — Mechanical Engineering Research Laboratory*	Ministry of Transport
Engineering Equipment Users’ Association	Ministry of Works
Gas Council	National Physical Laboratory
	Radio Industry Council
	War Office

The Government departments and scientific organizations marked with an asterisk in the above list together with the following were directly represented on the committee entrusted with the preparation of this standard:—

British Gear Manufacturers’ Association	Parsons Marine Engineering Turbine Research and Development Association
Institution of Engineers and Shipbuilders in Scotland	Production Engineering Research Association
Lloyd’s Register of Shipping	Society of British Aircraft Constructors
National Federation of Engineers’ Tool Manufacturers	Society of Motor Manufacturers and Traders
North-East Coast Institution of Engineers and Shipbuilders	

This British Standard, having been approved by the Mechanical Engineering Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on 6 May 1954

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Foreword

This standard makes reference to the following British Standards:—

BS 436, *Machine cut gears. A. Helical and straight spur.*

BS 545, *Bevel gears (machine cut).*

BS 721, *Machine cut gears. C. Worm gearing.*

BS 970, *Wrought steels.*

This British Standard was originally prepared under the authority of the Mechanical Engineering Industry Standards Committee at the request of the Admiralty and in close collaboration with that Department, the National Physical Laboratory, Lloyd's Register of Shipping and the manufacturers and users of gear hobbing machines.

This first revision of the standard introduces amendments that have been found desirable as the result of experience in its use.

The primary object of this specification is to establish standards of accuracy for gear hobbing machines for the production of high grade gears for turbines and similar drives.

Provision is made for two grades of accuracy. The requirements for Grade A are applicable to machines for producing gears for relatively heavy loads with high pitch line velocity, such as gears used for naval service. This grade represents the best which it is considered that industry can achieve at present, within the present scope of measuring technique. The requirements for Grade B represent a high quality of normal production and are intended to relate to machines for producing gears running under normal loading and pitch line velocities.

The standard does not attempt to lay down the particular methods of test by which the prescribed limits of accuracy may be verified: but guidance as to appropriate methods may be obtained from the Mechanical Engineering Research Laboratory¹⁾, referred to in the specification as M.E.R.L.

In the preparation of this standard the problem has been considered from two aspects: firstly, the tolerances that were desirable from the point of view of producing quiet-running gears and minimizing stresses induced by errors; and, secondly, the practical difficulties of measuring large dimensions, under workshop conditions, to a high degree of accuracy. Stress is laid on the need for temperature control in the construction and operation of gear hobbing machines and on the provision of foundations that will ensure the greatest degree of insulation from vibration and temperature change.

Should the test results on a machine show that it is capable of meeting the requirements of this standard over a lesser range than its design capacity or in one direction of motion only, the inspecting authority should report accordingly.

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 13 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.

¹⁾ Department of Scientific and Industrial Research, East Kilbride, Glasgow.

