



BS 1610: Part 2: 1985

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British Standard

Materials testing machines and force verification equipment

**Part 2. Specification for the grading of equipment
used for the verification of the forces applied by
materials testing machines**

Machines d'essai des matériaux et appareils de vérification des forces
Partie 2. Graduation des appareils de vérification des forces exercées par les machines
d'essai des matériaux — Spécifications

Werkstoffprüfmaschinen und Kraftmeßeinrichtungen
Teil 2. Klasseneinteilung für Einrichtungen zur Messung der von Werkstoffprüfmaschinen
angebrachten Kräfte

British Standards Institution

Foreword

This Part of BS 1610 has been prepared under the direction of the Iron and Steel Standards Committee and the Non-ferrous Metals Standards Committee. Parts 1 and 2 together supersede BS 1610 : 1964 which is withdrawn.

An extensive revision has been necessary due to the development of materials testing machines incorporating strain-gauge load cells and electronic force indication and the more varied types of test that can be made using such machines. Account has also been taken of developments in the force verification equipment, in particular, modern electronic indication.

Part 1 of BS 1610 specifies requirements for the grading of the forces applied by a materials testing machine and the method of verification; Part 2 specifies requirements for the grading of force verification equipment and the method of calibration of proving devices.

Cognizance has been taken of discussions in the International Organization for Standardization (ISO) and the International Organization for Legal Metrology (OIML). A numerical system of grading is specified which relates to that being adopted internationally and is also conceptually similar to the system for testing machines specified in the previous edition of BS 1610. For each grade of the verification equipment, the numerical value of repeatability has been defined as five times better than that required for the corresponding grade of the test machine.

Some parameters adopted in this revision differ slightly from international views because they have been chosen as a result of national experience and to maintain conformity with a wide range of commercial interests.

Although this Part is mainly intended to apply to proving devices, requirements are also included for verification masses, for use when small forces are being measured, and for proving levers for special applications. A requirement is also included that calibration forces be traceable to national standards held at the National Physical Laboratory (NPL) either directly or indirectly through a hierarchical chain such as that provided by a calibration laboratory accredited by the National Measurement Accreditation Service. Traceability to national standards of other countries is acceptable, provided these standards are recognized by NPL.

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

