

ISO

trans. L. B. B. B. B.

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 946

BEAM UNNOTCHED IMPACT TEST
FOR GREY CAST IRON

1st EDITION
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BRIEF HISTORY

The ISO Recommendation R 946, *Beam unnotched impact test for grey cast iron*, was drawn up by Technical Committee ISO/TC 25, *Cast iron*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question by the Technical Committee began in 1958 and led, in 1964, to the adoption of a Draft ISO Recommendation.

In April 1967, this Draft ISO Recommendation (No. 1197) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Argentina	India	Romania
Belgium	Ireland	South Africa, Rep. of
Brazil	Israel	Sweden
Canada	Italy	Switzerland
Chile	Korea, Rep. of	Thailand
Finland	Netherlands	Turkey
France	Norway	U.A.R.
Germany	Poland	United Kingdom
Greece	Portugal	Yugoslavia

One Member Body opposed the approval of the Draft :

Czechoslovaia

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in January 1969, to accept it as an ISO RECOMMENDATION.

BEAM UNNOTCHED IMPACT TEST FOR GREY CAST IRON

1. SCOPE

This ISO Recommendation specifies requirements for the determination of the impact strength of grey cast iron containing graphite in flake form.

2. PRINCIPLE OF TEST

- 2.1 The test consists in breaking, by a single blow from a swinging hammer, a series of unnotched machined cylindrical test pieces resting freely between supports, and measuring the difference between the kinetic energy of the hammer immediately before fracture and its residual energy after the fracture of the test piece.
- 2.2 The impact strength of the grey cast iron is the apparent energy absorbed in fracture denoted by the symbol KG , and is expressed in kilogramme-force metres (see also Appendix Y).

3. SYMBOLS AND DESIGNATIONS

Number	Symbol	Designation
1	l	Length of test piece
2	d	Diameter of test piece
3	A	Initial potential energy of the testing machine
4	L	Distance between supports
5	—	Radius of curvature of supports
6	—	Taper of supports
7	—	Angle at tip of hammer
8	—	Radius of curvature of hammer
9	v	Speed of hammer at instant of striking
10	KG	Apparent energy absorbed in fracture

4. MACHINED STANDARD TEST PIECES

- 4.1 The test bars are cast as cylindrical bars having a diameter of

$$30 \begin{smallmatrix} + 2 \\ 0 \end{smallmatrix} \text{ mm}$$

and a *minimum* length of 150 mm.