

Testing concrete —

Part 103: Method for determination of compacting factor

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee B/517, Concrete, to Subcommittee B/517/1, Concrete production and testing, upon which the following bodies were represented:

- Association of Lightweight Aggregate Manufacturers
- Association of Metropolitan Authorities
- British Aggregate Construction Materials Industries
- British Cement Association
- British Civil Engineering Test Equipment Manufacturers' Association
- British Precast Concrete Federation
- British Ready Mixed Concrete Association
- Building Employers' Confederation
- Cement Admixtures Association
- Cementitious Slag Makers' Association
- Concrete Society
- County Surveyors' Society
- Department of the Environment (Building Research Establishment)
- Department of the Environment (Property Services Agency)
- Department of Transport
- Department of Transport (Transport Research Laboratory)
- Electricity Association
- Federation of Civil Engineering Contractors
- Institute of Concrete Technology
- Institution of Civil Engineers
- Institution of Structural Engineers
- Institution of Water and Environmental Management
- National House-Building Council
- Quality Ash Association
- Sand and Gravel Association
- Society of Chemical Industry

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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 References	1
3 Definitions	1
4 Apparatus	1
5 Sampling	1
6 Preparing the sample	2
7 Gravimetric procedure	2
8 Expression of results	4
9 Report	4
Annex A (normative) Volumetric procedure	6
Figure 1 — Compacting factor apparatus	3
Table 1 — Essential dimensions of the compacting factor apparatus	2
Table 2 — Precision data for compacting factor measurements	4
List of references	Inside back cover

Foreword

This Part of BS 1881 has been prepared under the direction of Technical Committee B/517, Concrete. It is a new edition that incorporates the minor changes to equipment made in 1989, the data on the precision of the method when using the conventional (gravimetric) procedure, added by amendment in 1992, and a new annex on the volumetric procedure. This edition does not represent a full revision as test methods for concrete are currently in preparation by CEN/TC 104 “Concrete — Performance, production, placing and compliance criteria” and the UK is fully involved in this work. The resulting European Standards will be implemented as revisions of the corresponding Parts of BS 1881. This new edition of BS 1881-103 supersedes BS 1881-103:1983 and DD 90:1983, which are withdrawn.

The new annex A describes the alternative (volumetric) procedure for determining the compacting factor. This procedure was originally published in DD 90:1983. By this procedure the compacting factor is determined from the reduction in volume that occurs when a defined volume of partially compacted concrete is fully compacted. This has the advantage of not requiring the use of scales or a balance and can be carried out in less time than the gravimetric method. The volumetric procedure is similar to that described in ISO 4111.

Four methods of determining the workability of concrete are given in Parts 102 to 105 of BS 1881, these being the slump, compacting factor, Vebe time and flow methods. The methods are appropriate to concrete mixes of different workability as follows:

Workability	Method
Very low	Vebe time
Low	Vebe time, compacting factor
Medium	Compacting factor, slump
High	Compacting factor, slump, flow
Very high	Flow

There are no unique relationships between the values yielded by the four methods. Relationships depend upon such factors as the shape of the aggregate, the sand fraction and the presence of entrained air.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 6, an inside back cover 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.