International Standard ISO 6782

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Aggregates for concrete — Determination of bulk density

Granulats pour béton — Détermination de la masse volumique en vrac

First edition — 1982-07-15

UDC 691.322 : 531.755.22 **Ref. No. ISO 6782-1982 (E)**

Descriptors :

Price based on 2 pages

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6782 was developed by Technical Committee ISO/TC 71, *Concrete, reinforced concrete and pre-stressed concrete*, and was circulated to the member bodies in January 1980.

It has been approved by the member bodies of the following countries :

Australia	Germany, F.R.	Poland
Austria	Greece	Portugal
Belgium	India	Romania
Brazil	Israel	South Africa, Rep. of
Chile	Italy	Spain
China	Korea, Dem.P. Rep. of	Sweden
Czechoslovakia	Korea, Rep. of	Switzerland
Denmark	Netherlands	Thailand
Egypt, Arab Rep. of	New Zealand	USA
France	Norway	USSR

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Bulgaria
United Kingdom

Printed in Switzerland

Aggregates for concrete — Determination of bulk density

1 Scope and field of application

This International Standard specifies a method for the determination of the bulk density[1] of dry or moist aggregates (normal or lightweight) for concrete, in either loose or compacted condition.

2 Reference

ISO 4847, *Concrete — Sampling of normal weight aggregates.*[2]

3 Definition

bulk density : The ratio of the mass of an aggregate sample filling a given container to the volume of the container.

It is expressed as mass per unit volume, i.e. kilograms per cubic metre (kg/m^3).

4 Apparatus

4.1 Cylindrical container, having a smooth inside and the approximate dimensions given in the table appropriate to the size of aggregate, and fitted with handles.

The container shall be watertight, of sufficient rigidity to retain its form under rough usage, and shall be protected against corrosion. The top rim shall be smooth and plane to within 0,25 mm, and parallel to the base within 0,5°.

Table — Dimensions of container and number of compacting strokes (see 6.3.1)

Capacity dm^3	Maximum nominal size of aggregate mm	Number of strokes per layer	Height-diameter ratio	Minimum thickness of metal	
				bottom mm	wall mm
1	5	20			
3	10	20			
10	31,5	30	1 to 1,5	5	2,5
30	80	50			

4.2 Balance, accurate to 0,2 % of the mass of the material to be weighed, and of adequate capacity (depending on the size of the container used).

4.3 Straight metal tamping rod, of diameter approximately 16 mm and length approximately 600 mm, with rounded ends.

4.4 Suitable shovel or **scoop.**

5 Sampling

Sample the aggregate in accordance with ISO 4847.

If the determination is to be carried out on dry aggregates, dry the sample to constant mass at 105 ± 5 °C and mix thoroughly.

If the determination is to be carried out on moist aggregates , determine the moisture content, as a percentage of the dry mass, and state this in the test report.

1) In some countries, the terms "unit mass", "unit weight" and "density" are used.

2) At present at the stage of draft.