

Specification for

Batch type concrete mixers

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	Sand and Gravel Association Limited
	Society of Chemical Industry
	Individual experts

The Government departments and scientific and industrial 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 British Standard:

British Ready Mixed Concrete Association	Department of the Environment (Building Research Establishment)
Department of Employment (Factory Inspectorate)	Individual experts

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Foreword

This British Standard for batch type concrete mixers, which was first published in 1946 and revised in 1959 and 1967, was prepared under the authority of the Road Engineering Industry Standards Committee, with the following principal objectives in view.

- 1) To assure purchasers that the machines meet certain minimum requirements.
- 2) To aid production by limiting the number of standard sizes.
- 3) To help manufacturers and purchasers by laying down working limits for capacity and other features of the machines.

The standard has been formulated using metric dimensions as part of the national policy to change to the metric system. Unlike the previous edition, this standard does not specify a mandatory requirement for mixing performance but allows the purchaser to state if he requires the mixing performance to comply with the requirements of BS 3963, "*Method for testing the performance of concrete mixers*".

As new designs and larger sizes of mixers are formulated, it is recommended that they comply as far as possible with the general requirements of this standard.

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 and ii, pages 1 to 10, 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.

1 Scope

This British Standard deals with batch type concrete mixers of the free-fall (drum) and forced action (pan) types as defined below. It does not apply to truck type concrete mixers which are covered by BS 4251.

The standard defines various terms, the designations and sizes of the mixers, and gives requirements for the necessary accessories which go to make a complete unit and specifies the mixing performance which may be required by the purchaser.

NOTE The titles of the British Standards referred to in this standard are listed on the inside back cover.

2 Definitions

NOTE Reference to Figure 1 may be found useful.

For the purposes of this British Standard, the following definitions apply.

2.1

batch type concrete mixers

1) *Free-fall concrete mixer (drum type)*. A mixer having a drum which rotates about a horizontal or inclined axis and generally having a series of blades fitted internally.

NOTE The mixing action is achieved by causing a portion of the mix to be lifted as the drum rotates and, at a certain point in each revolution, allowing it to be dropped or directed towards the bottom of the drum, where it combines with other parts of the mix in a continuously changing sequence to form a homogenous mix.

this kind of mixer can be further subdivided into:

- a. Tilting drum*. The drum has an inclinable axis and is a single compartment.
- b. Non-tilting drum*. The drum rotates in one direction on a horizontal axis and comprises a single compartment drum having two openings.
- c. Reversing drum*. The drum rotates on a horizontal axis, the direction being reversed to discharge.

2) *Forced action concrete mixer (pan type)*. A mixer with a pan (or trough) having blades (or paddles) moving relatively, one to the other.

NOTE The mixing action is accomplished by the relative movements between the mix, the pan (or trough) and the blades (or paddles).

this kind of mixer can be further subdivided into:

- a. Annular trough*. Stationary pan with concentrically placed rotating paddles.
- b. Stationary pan*. Stationary pan with concentrically placed rotating paddles and one or more sets of planetary rotating paddles.

c. Rotating pan. Rotating pan with non-planetary eccentrically placed rotating paddles.

d. Axial trough. Stationary trough with one or more sets of rotating paddles mounted on a horizontal or inclined shaft.

2.2

transportability

- 1) *Static mixer*. A mixer not provided with wheels and usually built into a mixing plant.
- 2) *Portable mixer*. A mixer fitted with a simple form of wheels.
- 3) *Trailer mixer*. A mixer fitted with road wheels so that it can travel or be towed efficiently and safely at maximum statutory speed.

2.3

datum ground level

the level on which the road wheels stand or, if rail wheels are fitted, the level of the top of the rail

2.4

discharge point

the point used to establish the discharge height from the datum ground level

- 1) In a tilting mixer, the lowest point of the drum opening, when the drum is tilted to the highest position at which it will effectively discharge its batch.
- 2) In a non-tilting mixer, the lowest point of the standard movable discharge chute when in its discharge position, or the lowest point of a standard fixed chute extension, if fitted.
- 3) In a reversing drum type, the lowest point of the discharge opening, or the lowest point of a standard fixed chute extension, if fitted.
- 4) In a forced action mixer, the lowest point of the door in the discharge position or the lowest point of the fixed chute guide plates, if fitted.

2.5

loading point

the point used to establish the loading height above the datum ground level; the point above which material has to be raised in order to commence charging the loading skip or mixer itself, as applicable

2.6

water measurement

- 1) *Automatic tank*. A tank which, on manipulation of a valve, is filled by and discharges a predetermined quantity of water, according to a predetermined setting, without reference to a gauge indicating the water level.