



Designation: ~~D4164-99~~ Designation: **D 4164 – 03 (Reapproved 2008)**

Standard Test Method for Mechanically Tapped Packing Density of Formed Catalyst and Catalyst Carriers¹

This standard is issued under the fixed designation D 4164; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method covers the determination of the mechanically tapped density of formed catalyst and catalyst carriers. For the purpose of this test method, catalyst particles are defined as extrudates, spheres, or formed pellets of 0.8 to 4.8-mm ($1/32$ to $3/16$ -in.) nominal diameter.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D 3766 Terminology Relating to Catalysts and Catalysis

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

E 456 Terminology Relating to Quality and Statistics

E 691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

3. Summary of Test Method

3.1A preconditioned sample of formed catalyst or catalyst carrier is tapped in a graduated cylinder. The mechanically tapped packing density is determined from the known weight and tapped volume. Terminology

3.1 Definitions—See Terminology D 3766.

4. Significance and Use

4.1 This test method is to be used for measuring the mechanically tapped packing density of formed particles that will not break up during sampling, filling, or tapping of the measuring cylinder under test conditions. Summary of Test Method

4.1 A preconditioned sample of formed catalyst or catalyst carrier is tapped in a graduated cylinder. The mechanically tapped packing density is determined from the known mass and tapped volume.

5. Significance and Use

5.1 This test method is to be used for measuring the mechanically tapped packing density of formed particles that will not break up during sampling, filling, or tapping of the measuring cylinder under test conditions.

6. Apparatus

6.1

6.1 Graduated Cylinder, capacity 250 mL.

6.2, capacity 250 mL with a base designed to accommodate the cylinder holder.

6.2 Cylinder Holder, weighing 1 lb (454 g).

6.3

¹This test method is under the jurisdiction of ASTM Committee D-32 on Catalysts and is the direct responsibility of Subcommittee D32.02 on Physical-Mechanical Properties.

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²For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards*, Vol 14.02, volume information, refer to the standard's Document Summary page on the ASTM website.