



Designation: ~~D4781-99~~ Designation: D 4781 – 03 (Reapproved 2008)

Standard Test Method for Mechanically Tapped Packing Density of Fine Catalyst Particles and Catalyst Carrier Particles¹

This standard is issued under the fixed designation D 4781; 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 packing density of fine catalyst and catalyst carrier particles smaller than 0.8 mm in 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 dried fine catalyst or catalyst carrier particles 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 for measuring the mechanically tapped packing density of powders that are smaller than 0.8 mm in diameter, such as Fluidized Catalytic Cracking Catalysts (FCC). Summary of Test Method~~

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6. Apparatus

~~5.1~~

~~6.1 Graduated Cylinder, capacity 100 mL.~~

~~5.26.2 Holder—A cylinder holder weighing 454 g (1 lb).~~

~~5.3~~

~~6.3 Tapping Device, consisting of a baseplate with worm drive, with specifications of 250 r/min camshaft speed, tapping stroke travel of 3.2 mm (1/8 in.).~~

~~5.4~~

¹ This 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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² For 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* Volume 14.02, volume information, refer to the standard's Document Summary page on the ASTM website.