

Expanded Technologies

Floor, Furniture and Surface Protectors for all Environments

Felt Pads • Sliders • Gripper™ Pads



Standard Tests For Heavy Duty Felt Pads

Purpose

Heavy duty felt pads are designed to stick to the bottoms of furniture legs in order to protect floors from damage and to prevent joints of the furniture from loosening. To provide this protection, the pad must adhere to the furniture legs and must be sufficiently thick to absorb dirt and grit. Meeting these standard tests ensures that the pads will perform these functions.

Expanded Technologies is the original developer and U.S. manufacturer of heavy duty felt pads for furniture legs. The following tests for adhesion and density are intended to establish minimum standards for heavy duty felt pads.

Adhesion Tests

Purpose: By testing the adhesion of the heavy duty felt pad, it can be assessed how likely the pad is to stick to the furniture leg. The pad must adhere to the furniture leg in order to provide benefits. The tests determine how well a pad can withstand the forces of pull and shear caused by furniture sliding.

Material Tested: Heavy Duty Felt Pad Material Specifications: Square pad 1" x 1" x 1/4" thick, with pressure sensitive adhesive.

Equipment: Scale is commercial grade with 2% accuracy; high density polyethylene (HDPE) doll with a 3% radius arc.

Test #101, Tensile Strength

Procedure:

1. Remove release liner.
2. Stick pad to HDPE surface. HDPE surface has a 3" radius arch to replicate furniture leg bottoms which are typically uneven.
3. Clamp pad with 5 psi for twenty minutes to insure bond.
4. Exert a pulling force perpendicular to the arch on the center of the felt side of the pad. The pulling force pulls the pad away from the arch at a rate that increases at 5 lbs/sec until the pad detaches from HDPE surface.
5. Standard: Detachment should occur above at 40-45 lbs. of force.

Test #102, Shear Strength

Procedure:

1. Remove release liner.
2. Stick pad to HDPE surface. HDPE surface has a 9" radius arch to replicate a variation of furniture leg bottoms which are typically uneven.
3. Clamp pad with 5 psi for twenty minutes to insure bond.
4. Exert a pulling force tangentially to the arch across the center on the felt side of the pad. With this pulling force, an attempt is being made to slide the pad across the arch at a rate that increases at about 5 lbs/sec until the pad detaches from HDPE surface. There is no pressure applied to the arch or on the pad; the hold is due to the adhesive bond only.
5. Standard: Detachment should occur above at 80-85 lbs of force.

Density Tests

Purpose: By measuring the porosity of the heavy duty felt pad, the usable space for dirt particles to collect can be measured. There must be sufficient space within the felt pad for dirt particles to be absorbed within the spaces of the felt pad. Without this space, the dirt particles will remain on the outside of the felt pad and could cause marks and scratches to floors.

Material Tested: Heavy Duty Felt Pad Specifications: Square pad 1" x 1" x 1/4" thick, with standard pressure sensitive adhesive, as sold packaged.

Equipment: Scale is commercial grade with 2% accuracy; scaled beaker.

Test #201, Porosity Measurement

Procedure:

1. Fill beaker with 50 cc water.
2. Insert pad into water.
3. Compress pad to remove air.
4. Measure water displacement caused by the material composing the pad.
5. Standard: A water soaked pad should displace no more than 35% of its thickness, with 65% representing space in which dust particles can collect.

Test #202, Compression Measurement

Procedure:

1. Apply force to the felt surface, using a push steel rod that is 0.31" in diameter until 50% compression is achieved.
2. Standard: Achieve 50% compression at about 27 - 30 lbs of force.

Pliability Tests

Purpose: By measuring the pliability of the heavy duty felt pad, the ability of the pad to adapt to the shape of the furniture leg can be determined. The felt pad must cover the bottom of the furniture leg to afford maximum protection and insure that pad stays attached to the leg.

Material Tested: Heavy Duty Felt Pad Specifications: Square Pad 1" x 1" x 1/4" thick, with standard pressure sensitive adhesive.

Equipment: Scale is commercial grade with 2% accuracy; steel blade; metal plate with adjustable slot.

Test #301, Pliability Measurement

Procedure:

1. Using a 1/16" steel blade with dull edges, push the felt pad through a slot 1.62 x pad thickness. The slot is made of 0.250 inch thick le grade phenolic with 0.1875 inch radii edges polished with 320 grit emery cloth.
2. Place the felt pad squarely bridging the slot, with its felt side against the phenolic and the release liner in tact.
3. Apply force by pressing the steel blade against the center of the pad, parallel to the slot until the pad folds and passes through the slot.
4. Standard: Pad folds and passes through the slot with 13 – 14# of force.

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