

NAIL WITHDRAWAL TEST FIXTURE STAND ALONE UNIT



Specimen	Width	Any size up to 8.0"
	Thickness	Any size up to 8.0"
	Length	Any size up to 8.0"
Fixture	Construction	Aluminum with clear anodize & high strength steel with protective black oxide -20 to 120°F (-29 to 49°C)
	Temperature	Stand alone unit
	Mounting	1,000 lbs (4.5kN)
	Capacity	30 lbs approximately
	Weight	Assembled - 8" x 8" x 18"
	Dimensions	Powered by Enerpac cylinder and pump
	Loading	Twin LVDT displacement gauges (readout sold separately)
	Displacement Standard	Manufactured in accordance with ASTM D1037.

Model No. ASTM.D1037.22

Stand Alone Nail Withdrawal Loading Frame. The 1,000 lbs capacity aluminum loading frame will include a 1/2"-20 loading rod, split nut, any mounting plates or brackets needed to center and mount the load cell and enerpac ram, (2) mountings and pull rod adapters for the LVDT's sensors, (2) nail withdrawal tension bells for 8D and 16D nails and all fasteners required to assemble unit. The load frame will have a 3" travel with height adjustments via movement of the split nut.

MODEL NO. ASTM.D1037.22

WOOD TESTING

ACCESSORIES

No Adapters Necessary

SPARE PARTS

SPA.D1037.2201- Twin LVDT displacement gauges (readout sold separately)

SPA.D1307.2202- Enerpac cylinder and pump

REFERENCE DOCUMENT AND TEST METHOD SCOPE:

Scope <http://www.astm.org/Standards/D1037.htm>

ASTM D1037-12 Standard Test methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials

1.1 Part A General Test Methods for Evaluating the Basic Properties of Wood-Base Fiber and Particle Panel Materials. These test methods cover the determination of the properties of wood-base fiber and particle panel materials that are produced as mat-formed panels such as particleboard, medium-density fiberboard, hardboard, and oriented strand board. Significance and Use(3) Apparatus(4) Test Specimens(5) Moisture Content and Conditioning Requirements (6) Accelerated Aging(7) Size, Physical Properties and Appearance of Panels(8) Static Bending(9) Tension Parallel to Surface(10) Tension Perpendicular to Surface(11) Compression Parallel to Surface(12) Fastener Holding Tests Lateral Nail Resistance(13) Nail Withdrawal(14) Nail-Head Pull-Through(15) Direct Screw Withdrawal(16) Hardness(17) Hardness Modulus(18) Shear in the Plane of the Panel (19) Glue-Line Shear (Block Type)(20) Falling Ball Impact(21) Abrasion Resistance by the U.S. Navy Wear Tester(22) Moisture Tests Water Absorption and Thickness Swelling(23) Linear Expansion with Change in Moisture Content(24) Cupping and Twisting (25) Interlaminar Shear(26) Edgewise Shear(27) Compression-Shear(28)

1.2 Part B Acceptance and Specification Test Methods for Hardboard. The methods for Part B provide test procedures for measuring the following properties of hardboard Thickness(32) Modulus of Rupture(33) Tension Strength Parallel to Surface(34) Tension Strength Perpendicular to Surface(35) Water Absorption and Thickness Swelling(36) Moisture Content and Specific Gravity (37)

1.3 There are accepted basic test procedures for various fundamental properties of materials that may be used without modification for evaluating certain properties of wood-based fiber and particle panel materials. These test methods are included elsewhere in the Annual Book of ASTM Standards. The pertinent ones are listed in Table 1. A few of the test methods referenced are for construction where the wood-base materials often are used.

1.4 The values stated in inch-pound units are to be regarded as the standard. The SI equivalents are approximate in many cases. 1 in. = 25.4 mm, 1 lbf = 4.45 N.

1.5 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.

TABLE 1 Basic Test Procedures for Evaluating Properties of Wood-Base-Fiber and Particle Panel Materials Designation Test Methods for (C177) Steady-State Heat-Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus(A)(C209) Cellulosic Fiber Insulating Board(A)(C236) Steady-State Thermal Performance of Building Assemblies by Means of the Guarded Hot Box(A)(C384) Impedance and Absorption of Acoustical Materials by the Impedance Tube Method(A)(C423) Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method(A)(D149) Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies(B)(D150) A-C Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulating Materials(B)(D257) D-C Resistance or Conductance of Insulating Materials(B)(D495) High-Voltage, Low-Current, Dry Arc Resistance of Solid Electrical Insulation(B)(D1666) Conducting Machining Tests of Wood and Wood-Base Materials(C)(D1761) Mechanical Fasteners in Wood(C)(E72) Conducting Strength Tests of Panels for Building Construction(D)(E84) Surface Burning Characteristics of Building Materials(D)(E90) Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions(A)(E96) Water Vapor Transmission of Materials(A)(E97) Directional Reflectance Factor, 45-deg 0-deg, of Opaque Specimens by Broad-Band Filter Reflectometry(E)(E119) Fire Tests of Building Construction and Materials(D)(E136) Behavior of Materials in a Vertical Tube Furnace at 750°C(D)(E152) Fire Tests of Door Assemblies(D)(E162) Surface Flammability of Materials Using a Radiant Heat Energy Source(D)(E661) Performance of Wood and Wood-Based Floor and Roof Sheathing Under Concentrated Static and Impact Loads(D)(E662) Specific Optical Density of Smoke Generated by Solid Materials(D)(E906) Heat and Visible Smoke Release Rates for Materials and Products(D)

A Annual Book of ASTM Standards, Vol 04.06. B Annual Book of ASTM Standards, Vol 10.01.

C Annual Book of ASTM Standards, Vol 04.10. D Annual Book of ASTM Standards, Vol 04.07.

E Annual Book of ASTM Standards, Vol 14.02.

Extracted, with permission, from ASTM D1037 Standard Test methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19482. A copy of the complete standard may be purchased from ASTM International, www.astm.org.