



Maintaining the highest standards within the industry is Corev America's highest priority. Corev's Research and Development Program includes extensive testing to assure its customers of top performance in every product.

EXTENSIVE FIRE TESTING

| Test | Method | Description | Results |
|---|--|--|---|
| Full Scale Multi Story Fire Test for PRECOR Assembly over 4" EPS. | UBC 26-4 (Formerly UBC 17-6) | Severe fire exposure of a two story structure with PRECOR System | No flame propagation through core or exterior face of system. |
| Surface Burning Characteristics For PRECOR Assembly | ASTM E 84 (UL 723, UBC 42-1) | Smoke Development Flame Spread Index (Assembly over 4" EPS) | 165 25 |
| Surface Burning Characteristics for FINISH COATINGS | ASTM E 84 (UL 723, UBC 42-1) | Smoke Development Flame Spread Index Fuel Contribution | 5 5 0 |
| Large Scale Vertical Fire Spread Test for PRECOR (4" E.P.S.) | Modified ASTM E 108 | Fire simulation of PRECOR assembly on vertical wall | No significant vertical or horizontal flame spread. Limited smoke production. |
| Fire Performance Evaluation of 1 hour and 2 hour Wall Assembly with PRECOR System | ASTM E 119-95 | PRECOR System over gypsum sheathing and steel studs | Wall assembly received 1hour and 2 hour fire resistance rating. |
| Burning Characteristics (FINISH COATINGS ONLY) | Military Spec. MIL-M1014G | Bellstein Test Smoke Development Flame Spread Ash | Negative Light 5" Light |
| Potentially Hazardous Gas Emissions Upon Burning (FINISH COATINGS ONLY) | Military Spec. MIL-M-14G Results expressed in PPM. | Chlorine Hydrogen Chloride Phosgene Ammonia Carbon Monoxide Cyanides as HCN Sulfur Dioxide Aldehydes as HCHO Carbon Dioxide Nitrogen Oxides | 0 0 0 0 140 0 0 2 9125 28 |
| Ignitibility Using Radiant Energy Heat Source (3/4" and 4" EPS) | NFPA 268 | Radiant Heat Ignition Resistance for Exterior Wall | No ignition |

STRUCTURAL TESTING

| Test | Method | Description | Results |
|---------------------------------------|----------------------------|--|---|
| Wind Load Resistance | ASTM E 330 | ¾" EPS over 20g. 16" O.C. Studs; 5/8" gypsum sheathing | Tested to negative 120 psf loads without failure. |
| Impact Resistance | ASTM D 2794 | 15 lbs. cup 2" dia. / 2.5" radius nose | Mean Failure Energy: 56.6 ft/lbs |
| | EIMA 101.86 | PRECOR with Standard Mesh Medium Mesh High Impact Mesh Ultra High Impact Mesh | Pass Pass Pass Pass |
| Hardness | Rockwell R Scale | Corevsand Decorplast | 25.5 24.2 |
| Bond Strength Test (ICBO Freeze/Thaw) | ASTM C 297 | PRECOR over 1" EPS ¼" fiberboard substrate | No evidence of cracking or other damage. |
| Wall Assembly Impact Resistance | ASTM E 695 (Formerly E 72) | 1" to 4" EPS over various assembly configurations | Pass with no damage to finish. |



RESISTANCE TO ELEMENTS

| Test | Method | Description | Results |
|--------------------------|--|--|--|
| Accelerated Weathering | ASTM G 23 | 2000 hours Carbon Arc Method | No deterioration or color change. |
| Salt Fog Resistance | ASTM B 117 | 500 hours of 5% salt fog | No change. |
| Humidity Resistance | ASTM D 1735 | 500 hours of 100% water fog | No change. |
| Wind Driven Rain | Fed. Spec. TT-C-555B | 24-hour exposure | 0.35% weight gain. No water penetration. |
| Freeze Thaw Stability | ASTM C 67 | Repeated cycles exposing PRECOR sections to severe soaking/freeze/thaw | No delaminating, cracking or other deterioration. |
| Abrasion Resistance | ICBO AC24, Sec. 6.5 ASTM D 969 (1000Lts.) | Resistance to wear | No perceptible change. |
| Chemical Resistance | ASTM D 1308 | Hydrochloric acid 10% Ammonia hydroxide Turpentine fuel oil Fuel oil #2 | No change. No change. Moderate softening. Slight softening. |
| Mildew resistance | Military STD.810B | Method 508 | No fungus growth. |
| Water Penetration | ASTM E 331 | Resistance to water | No water penetration. |
| Water Resistance | ASTM D 2247 | Resistance to water | No water penetration. |
| Water Vapor Transmission | ASTM E 96 | Permeance through 1" EPS Assembly at 75 F/50%R.H. | 1.036 grains/hour-ft ² 2.368 perms |

INSULATION BOARD TESTING

The insulation board used by Corev America meets or exceeds requirements of ASTM C 578-92. All tests relate to boards of 1.0 lb./cu. ft. density.

| Test | Method | Description | Results |
|--|-------------------------------|--|--|
| Thermal Conductivity | ASTM C 177, C 518 | K Factor | 0.23@25 F 0.24@40 F 0.26@75 F |
| Thermal Resistance | ASTM C 177, C 518 | R value for 1" board | 4.35@25 F 4.17@40 F 3.85@75 F |
| Strength Properties Compressive Flexural Tensile Shear Shear Modulus Modulus of Elasticity | ASTM C 165/1621 ASTM C 203 | 10% deformation Values in psi Values in psi Values in psi Values in psi Values in psi | 10.0 - 14.0 25.0 - 30.0 16.0 - 20.0 18.0 - 22.0 230 - 320 180 - 220 |
| WVT | ASTM E 96 | Values in perms-inches | 2.0 - 5.0 |
| Water Absorption | ASTM C 272 | Maximum volume in % | 4.0 |
| Dimensional Stability | ASTM D 2126 | Change in dimension expressed in maximum % | 2.0 |
| Coefficient of Thermal Expansion | ASTM D 696 | in(in.)(F) | 0.000035 |
| Surface Burning Characteristics | ASTM E 84(UBC 42-1) | Flame spread Smoke development | Less than 25 Less than 450 |