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## Moisture Management Properties of Roxul TopRock<sup>®</sup> DD Roof Insulation

An important benefit of TopRock<sup>®</sup> DD is its ability to allow trapped vapors in a roof assembly to disperse throughout the insulation layer. The Water Vapor Permeability of TopRock DD is approximately 30 Perm, as measured in accordance with ASTM E 96-05 'Standard Test Method for Water Vapor Transmission of Materials'.

TopRock DD is water repellent, resisting the infiltration of water into the insulation layer. The structure and integrity of stone wool insulation is not affected by the presence of water. Water exposure from leaks in the roof membrane or from condensation within the assembly can be removed by allowing the insulation to vent this moisture. Stone wool will quickly dry out to become fully restored and retain its original characteristics.

When tested in accordance with ASTM C 1511-04 'Standard Test Method for Determining the Water Retention (Repellency) Characteristics of Fibrous Glass Insulation' TopRock DD demonstrates its superior water management properties. The test procedure consists of fully submerging TopRock DD below 127 mm (5") of water for 15 minutes and then measuring the water retained after allowing the product to drain for 60 seconds. Roxul went beyond the 60 seconds and measured the time required to naturally dry the product.

The initial water retention of TopRock DD is measured at 2.3% (v/v). When allowed to dry naturally, the water content drops below 0.5% (v/v) within 8 hours of total immersion, with over 75% (v/v) of the initial surface water being dissipated. TopRock DD returns to complete dryness within a 24 hour period under standard laboratory conditions.

In separate tests, the water content of TopRock DD was measured at 0.11% (v/v) when tested at a temperature of 23°C (73°F) and 93% relative humidity. Under conditions of 23°C (73°F) and 97% relative humidity the water content was measured at 0.31% (v/v). This further illustrates the superior water repellent and vapor permeable properties of Roxul stone wool insulation.

