

TL-0013 — Rigid Roof Insulation Boards and GCP Underlayments Technical Letter

In recent years construction schedules and building assemblies have become more complicated. This has resulted in more projects being built during cold weather months and more complex roof/insulation assemblies.

Common applications of GCP's self-adhered underlayments to rigid roof insulation include vapor barriers and as a temporary roof covering, while waiting for delivery of metal roof systems.

When a GCP self-adhered underlayment (GRACE ICE & WATER SHIELD[®], GRACE ICE & WATER SHIELD[®] HT, GRACE SELECT[™], Roof Detail Membrane[™] or GRACE ULTRA[™]) is applied to a structural roof deck, the deck acts as a heat sink. Excess heat build-up in the membrane is transferred to the structural roof deck. On the contrary, when a GCP underlayment is installed directly to rigid roof insulation (under a metal roof covering), there is little or no heat sink effect and, therefore, excess heat is not transmitted through the membrane. Under such conditions, which usually occur in warmer climates such as the desert southwest or at high altitudes, it is recommended that GRACE ULTRA[™] be used for improved thermal stability.

GRACE ULTRA[™] and GRACE ICE & WATER SHIELD[®] HT are the only GCP underlayments recommended for installation directly to rigid roof insulation in the desert southwest United States or at high altitudes.

Adhesion to rigid roof insulation boards varies. Porous and dusty surfaces such as Perlite Board, wood fiberboard and some of the glass scrims, provide poor initial adhesion. The use of a primer, such as PERM-A-BARRIER[®]WB Primer will help adhesion to these surfaces. If the primer is necessary, it should be applied at the rate of 250–350 ft²/gal (6–8 m²/L). PERM-A-BARRIER[®]WB Primer is slippery when wet. Allow the primer to dry thoroughly before walking on the insulation surface. Dust free, smooth insulation facers, such as foil asphalt impregnated glass scrims and some of the papers, provide the best initial adhesion. The choice of the insulation board or use of a primer is the responsibility of the specifiers. GCP recommends using an insulation board that provides the stability and an I-60 wind uplift.

Cover the exposed membrane with roofing material as soon as possible. When the underlayment is adhered to roof insulation, exposure times may shorten and minimum application temperatures may become more critical.

gcpat.com | North America Customer Service: +1 (877) 423 6491

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

GRACE ICE & WATER SHIELD, GRACE SELECT, GRACE ULTRA, PERM-A-BARRIER, and Roof Detail Membrane are trademarks, which may be registered in the United States and/or other countries, of GCP Applied Technologies Inc. DensGlass Gold is a registered trademark of Georgia-Pacific Corporation. This trademark list has been compiled using available published information as of the publication date and may not accurately reflect current trademark ownership or status.

© Copyright 2018 GCP Applied Technologies Inc. All rights reserved.

GCP Applied Technologies Inc., 2325 Lakeview Parkway, Suite 400, Alpharetta, GA 30009, USA

GCP Canada, Inc., 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6

This document is only current as of the last updated date stated below and is valid only for use in the United States. It is important that you always refer to the currently available information at the URL below to provide the most current product information at the time of use. Additional literature such as Contractor Manuals, Technical Bulletins, Detail Drawings and detailing recommendations and other relevant documents are also available on www.gcpat.com. Information found on other websites must not be relied upon, as they may not be up-to-date or applicable to the conditions in your location and we do not accept any responsibility for their content. If there are any conflicts or if you need more information, please contact GCP Customer Service.

Last Updated: 2025-05-13

gcpat.com/solutions/products/grace-ice-water-shield-roofing-underlayment/tl-0013-rigid-roof-insulation-boards