



HYGARD® Sentinel: An Attractive Solution for Site Protection

Transparent façade offers a resilient, all-in-one blast, ballistics, forced-entry and severe-storm protection solution adaptable for new construction or security-upgrade retrofits

Terrorist attacks have heightened the need for security for government and diplomatic buildings. Now, Hygard® Sentinel can guard key buildings and personnel with an attractive, cost-effective façade that provides greater protection.

Hygard® Sentinel is a clear, blast-resistant, structural envelope or protective shell that combines the aesthetics, day-lighting, and impact resistance of Hygard® polymer-laminate panels with a high-strength, energy-absorbing steel mounting structure. The system can be adapted for specific project requirements to give architects and engineers additional flexibility, and offers blast protection at levels at least 50 percent greater than the toughest U.S. government standards to offer security officers a superior option to protect challenging locations.

Additionally, Hygard® Sentinel is a cost-saving retrofitting option compared with site relocation or new construction.

PROTECTION	<ul style="list-style-type: none">• Superior blast protection up to 50 percent above most rigorous specifications¹; can protect from greater threats or provide equal protection at closer distance	<ul style="list-style-type: none">• Adaptable, resilient solution is designed to protect personnel and the building's structure to promote operational continuity	<ul style="list-style-type: none">• Attractive protection from high-tech transparent polymer glazing that is less than half the weight of glass²
PROVEN	<ul style="list-style-type: none">• Tested with live-explosive blasts administered by third party experts and advanced modeling techniques	<ul style="list-style-type: none">• Certified by U.S. Department of State's Bureau of Diplomatic Security to meet forced-entry³ and ballistics resistance requirements⁴	<ul style="list-style-type: none">• Designated by the U.S. Department of Homeland Security under the SAFETY Act as a Developmental Anti-Terrorism Technology
VALUE	<ul style="list-style-type: none">• Cost-saving retrofit option compared with relocation or new construction; can protect sites with less set-back distance or on smaller real-estate footprint	<ul style="list-style-type: none">• Hygard® laminate is available with a 15-year limited warranty – five-years longer than typical blast-resistant glass	<ul style="list-style-type: none">• Protection from multiple threats in a single solution: blast, ballistics, forced-entry and severe-storm protection; can contribute to climate control savings

Adaptable to your project requirements, Bayer offers Hygard® Sentinel as a delivered solution with every phase covered – from conception to completion – in retrofits or new construction, or can work as part of your design-construction team.

¹ From blast shock-waves up to ~180 psi peak pressure and ~540 psi-msec impulse.

² Comparison on an equivalent volume basis.

³ Both Hygard® BL80 GC8 and Hygard® BL80 facades were certified to defend against a "15-minute" simulated forced-entry assault.

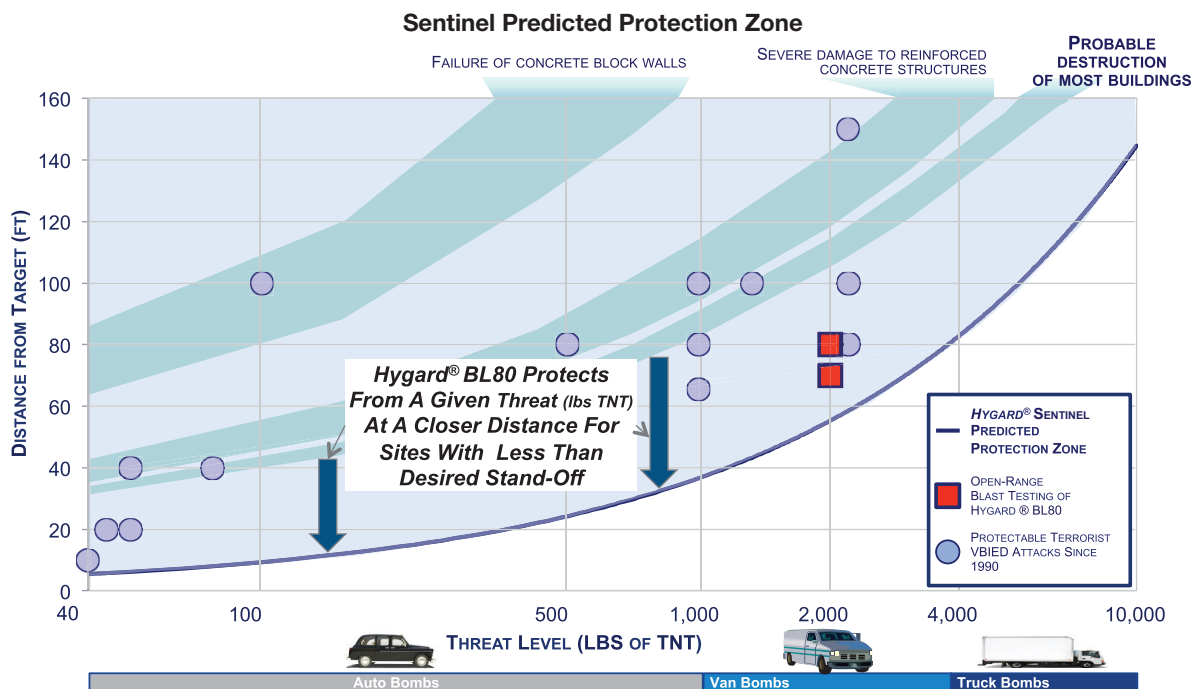
⁴ The Hygard® BL80 GC8 facade with a "Level 8" glass-clad polymer-laminate was certified to defend against Diplomatic Security "level 3" (~UL 752 level 8) ballistics.

The Hygard® BL80 facade with Hygard® EX1750 laminate can be used where UL752 Level 3 is required.



Hygard® Sentinel protective facade shown in an artist's rendering

HYGARD® Sentinel Structural Façade Extends The Protected Zone To Include Recent Attacks In The “Probable Destruction Of Most Buildings” Area.



Note 1. Excludes bombing events that occurred at zero distance, inside a building, in open space, on a moving target, or where no major damage occurred

To learn more, contact **Roger Rumer** by phone, **412-777-5639** or email, **roger.rumer@bayer.com**.

Important Note: It is not possible for Bayer MaterialScience LLC to make definitive claims that our Hygard® Sentinel (System) will protect any building from any and all explosions, or all occupants from injury or fatality, and we make no such warranty. Bayer's System is designed to effectively absorb the shock-wave of a blast that generates up to 180 psi of peak pressure and 540 psi-msec impulse and still leave the protected structure with minimal damage. Even within these design limits, building occupants may experience injuries or fatalities due to conditions beyond our control.



Bayer MaterialScience LLC 1-800-662-2927 www.bmsnfta.com

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of product evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.

LIT##20981 Rev. 03/15