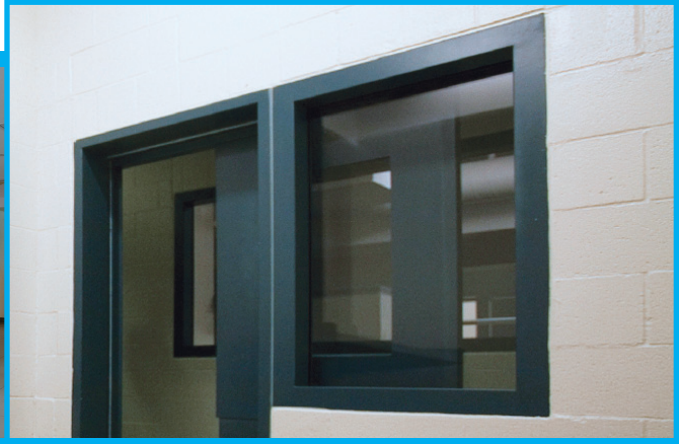




# Makrolon® and Hygard®

withstand extreme threats with no compromise to aesthetics or performance



## Covestro has built a reputation for quality polycarbonate materials

With a complete line of containment, forced entry, and ballistic rated polycarbonate products, Covestro is committed to supplying high quality security glazing materials to commercial, public, private, and government buildings.

Based on the virtually unbreakable Makrolon® polycarbonate sheet, the products maintain an aesthetically pleasing, glass-like appearance while providing forced entry and ballistics resistance. Performance has been tested by accredited laboratories and the results show the materials are an effective first level of defense against attack or unlawful entry and gives time for law enforcement officials to gain control.

## The Makrolon® and Hygard®\*\* Advantage vs Glass and Glass-Clad Products

- Reduced Weight: Approximately 50% lighter than glass laminate of the same thickness.
- No spall – providing an extra level of protection.
- Won't spider web or white-out – clear line of site under attack.
- Makrolon® and Hygard® products feature a hard coat that resists abrasion, chemical, and graffiti attack.
- Hygard® products offer a 7-year limited warranty. See website for details.

### Security Tests & Product Ratings Overview

Product	Containment and Forced Entry Test Ratings						Ballistic Test Ratings		
	Gauge Inches	Lbs./SF	UL 972	ASTM F 1233	ASTM F 1915	HPW TP-0500 Level	HPW TP-0500 Level	UL 752 Level	NIJ 0108 Level
AR	0.236	1.5	X		4				
AR	0.375	2.3	X		3				
AR	0.500	3.1	X	2.0 BP* / 1.4 C*	3	I			
CG 375	0.390	2.4	X	2.8 BP / 1.5 C	3	I	A		
CG 500	0.530	3.3	X	3.2 BP / 1.5 C	1	I	A		
CG 750	0.780	4.9	X	3.5 BP / 2.4 C	1	II	B		
BR 750	0.780	5.1	X				B	1	
BR 1000	1.050	6.5	X	5 BP / 2.4 C	1	IV		2	
BR 1250	1.300	8.1	X	5.0 BP / 2.5 C	1	IV		3	II / IIIA
MS 1250	1.300	8.1	X					6	

\* BP - Body Passage; C - Contraband

As with any security glazing, performance of Hygard® products is based on use in appropriate framing systems.

For information on glazing system suppliers and full details on performance, test results and agency listings, visit [www.sheets.covestro.com](http://www.sheets.covestro.com).

\*\*Please see product data sheet for additional information.



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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 production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance, information and recommendations 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 Covestro.

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.

With respect to health, safety and environment precautions, the relevant Safety Data Sheets (SDS) and product labels must be observed prior to working with our products.