



# UNICHEM

## uniRASE Gen 4A DRY ERASE COATING SYSTEM A Premium Dry Erase Coating

**UNICHEM's uniRASE** dry erase coating technology was created to strike just the right blend of function and value. This coating has been tested with over a hundred different colored markers, including permanent markers, from a wide array of manufacturers and is proven to deliver superior erase ability without ghosting and a durable film that withstands **20,000 dry erase rub cycles, without performance being diminished.** uniRASE exceeds the industry's stringent requirements and is set apart from other, prepainted metal, or laminated film, dry erase systems. **Additionally, Anti-Microbial customization is available.**

Review the performance of the UNICHEM, uniRASE Gen4 A Dry Erase System below. To see comparative information, images and data, versus both porcelain and laminate film, dry erase products. Continue reading.

We are certain that you will agree that the uniRASE Gen4 A, dry erase coating system will provide you with a very high quality, cost effective, dry erase coating system to meet your dry erase surface needs.



**Universal Chemicals & Coatings, Inc., UNICHEM,** has been producing value added, state of the art coatings for coil applied industrial coatings and adhesives since our inception in 1967. As our winged tiger logo represents integrity, wisdom and agility, these are the values UNICHEM operates with in everything we do.



## uniRASE Gen 4A Dry Erase System

**Performance Properties, uniRASE Gen 4A Top Coat-** For comparative data to competitive products, see additional information and data.

Test Performed	Method	Result	Comment
Pencil Hardness	ASTM D3363	H Minimum	2-H Commonly achieved with proper crosslinking.
Gloss, 60°	ASTM D523	90 Minimum	Lower gloss versions can be provided. Lower Gloss, can affect dry erase properties.
Color	Visual to a control	Visual Match to Standard	A color or brightness standard was not required at the time of development.
T-Bend	ASTM D4145	3T, NP	No cracking upon bend, and no paint removal using a 3M Tape off method.
MEK resistance (DRs)	ASTM-	25	NA
		50	NA
		100	NES
Edge Flake	Metal Sheared, Edge Tape for removal	Very good	Consistently this coating shows minimal Edge Flake or chipping after the metal is sheared and edge taped.
Flexibility	Fwd. ASTM D2794	2X40"/, NPNF-RI	No cracking, no film loss upon tape off
Dry Eraser Cycles	20,000 rubs-commercial eraser	No Ghosting	UCC performed repeated rubs, over the same strip, with a commercial dry erase marker. After 20K rubs, dry erase performance is not diminished.
Scratch Test	100 gm, (stylist)	No effect	Test illustrates that accidental scratch stresses, will not easily mar the coating surface.
	200 gm (stylist)	Minimal scratch	
Sharpie Removal	See comment Market	Complete Removal	Write over with dry erase marker, wipe immediately with a dry paper towel. Method may require more than one cleaning event.
Commercial Cleaners	100- DR	No affect	UCC conducted DR testing with commercial window and household spray cleaners. No affect to erase-ability was seen.



## uniRASE Gen 4A Dry Erase System

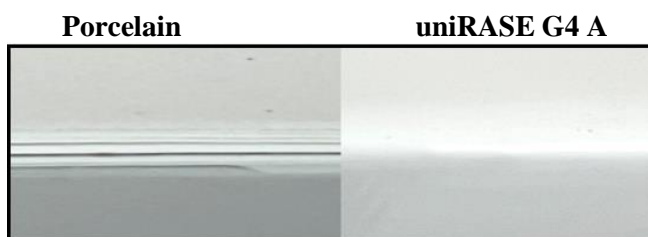
### APPLICATION DATA

	<u>FLEXLAIN® HG White Base Coat</u>	<u>uniRASE G4A White</u>
Substrate	TFS / CRS/*	TFS / CRS*
Pretreatment	Bonderite 1402W / 1455*	
Viscosity	20" – 25"	15" – 25"
Viscometer	#4 EZ Zahn	#4 EZ Zahn
Application	RRC (Reverse Roll coat)	RRC (Reverse Roll coat)
Reduction	If Necessary	If Necessary
Reducer	Butyl Cellosolve / SC-100	SC-100
Dry Film Thickness (Mils)	0.50 – 0.60	0.30 – 0.40
Coverage	1563 – 1876 sq. ft.	1415 – 1887 sq. ft.
Type of Oven	Gas Convection	Gas Convection
Bake Schedule	25"	25"
PMT	410° - 435°F	410° - 435°F

\*Adhesion and performance on other substrates, must be tested. For now, whatever we did, Results given are on \*CRS, treated with Bonderite 902 (or equivalent).

## Additional Information/Comparison Testing

**Flexibility- 90-degree bend** - (NOTE: flexible film products were not included in this test, as their performance is more dependent on the substrate they are applied to and the adhesive used.). Notice the porcelain exhibits sever cracking, while the uniRASE G4 A does not crack.



**Edge Flaking:** The coated metal substrate is cut using a metal shear. The brittleness of the coatings are evaluated. (NOTE: Polyester film was not included in this study, as the coating base, will dictate the performance.)



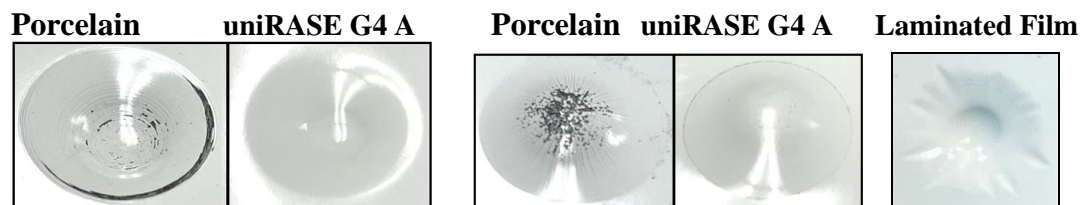
**Conclusion-** The uniRase G4A shows no to little edge flake, while the porcelain substrate fails and will require signifivant edge Repair.



**Forward/Reverse Impact Resistance (method inserted)**- With Direct Impact, the porcelain coating shows severe cracking and film loss versus no effect to the uniRASE coating film. In Reverse Impact testing the the porcelain material, again, shows severe cracking, and significant coating loss, and uniRASE G4A, again, shows no effect. In reverse impact testing, the laminated film product pulls away from the substrate.

**Forward Impact- (insert method)**

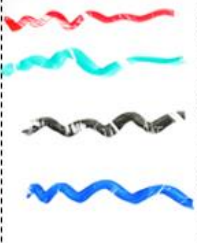



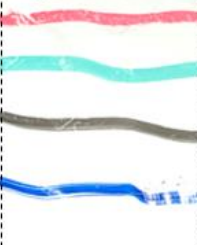







**Reverse Impact(insert method)**



**Conclusion-** The uniRASE coating shows superior resistance to damage from impacts both forward and reverse, making it superior for use where no framing is desired. .

## Humidity Exposure Effect on Dry Erase Properties

**Method-** Dry erase markers were applied to all three samples and then exposed to humidity. The far left is the reference section, showing the markers as applied.. The next section shows dry erase properties, after a 5-minute, ambient, drying period; prior to humidity exposure. Then each set of markers were tested for eraseability, after 7-days of humidity exposure. The eraseability was tested without, and lastly with the assistance of a commercial dry erase cleaner. NOTE: The black line in the polyester is a preprinted line, under the film, as supplied.

Sample ID	Reference marker lines for comparison	Initial removal after 5 min at ambient conditions	7 Days under high humidity	
			eraser only	eraser and dry erase cleaner
Unichem's uniRASE G4 A				
Polyester dry erase laminate film				
Porcelain dry erase coating				

**Conclusion:** After 7-days of humidity exposure, the uniRASE G4A shows equal eraseability versus Porcelain and superior eraseability to the laminated film product. Additionally the laminated film shows poor hydrolytic stability, with signs of delamination, being apparent.



### Accelerated Aging- 140F for 7-days

**Method-** Dry erase markers were applied to all three samples and then exposed to 140 F for seven days. It is impactful to compare the coatings after several years in service so this test was used to show the effects of age on the products over time. The section on the far left, reference section, illustrate the markers as applied. The next section illustrates eraseability, after a 5-minute drying period, prior to heat aging. The final two sections illustrate eraseability, without and with the use of a commercial cleaner, showing the markers as they were at the end of the test before erasing. Also included is a section showing the dry erase properties of each coating after 5 minutes before exposure to high heat.

Sample ID	Reference marker lines for comparison	Initial removal after 5 min at ambient conditions	7 Days at 140 F. dry heat	
			eraser only	eraser and dry erase cleaner
Unichem's uniRASE G4 A				
Polyester dry erase laminate film				
Porcelain dry erase coating				

**Conclusion:** The uniRASE G4A and the Porecelain coating have equal eraseability performance after heat aging. The laminate film did not perform well, with or without the use of a cleaner. Red and black markers showed the greatest difficulty for the laminated film, and allows the marker to penetrate into the film. The test for aging may be inconclusive for this polyester film, but it does show that the film is suseptable to ghosting when exposed to heat. (**Note:** The black vertical line under “eraser only” is not from a marker. It was pre printed on the polyester laminate before testing.)



**Summary-** UNICHEM's uniRASE G4 A coating system shows excellent performance, when compared to competitive dry erase systems. It performs superiorly to laminated film products in most ways, and can provide a very durable, prepainted metal surface, which can withstand edge bending, to create frameless, low-profile, white board surfaces; which cannot be done with more expensive porcelain boards. It competes well versus porcelain after humidity and heat exposure, and is far superior to polyester laminated films. Under heat and humidity Testing the polyester film can bubble and delaminate, making the surface unsealable. Additionally, the uniRASE products can be coil applied, prepainted, onto a durable metal substrate. This provides a highly cost effective method of application, with excellent, consistent, coating quality and appearance. Lastly, the uniRASE G4A is cost competitive with Polyester laminate, and while providing a more durable, longer-lasting, dry erase surface. uniRASE G4A compares to porcelain in many performance criteria, and at a fraction of the cost of porcelain or glass dry erase boards.

UNICHEM can customize this product to also provide anti-microbial properties, lower gloss, as well as color variations, if desired.

**Please contact your UNICHEM Sales Professional for additional information, at 847-931-1700.**