

Kynar Aquatec® PVDF

WATER-BASED COATINGS
FOR OUTDOOR USE



ARKEMA
INNOVATIVE CHEMISTRY

By 2040

GLOBAL ENERGY CONSUMPTION

will increase by **48%**.

Innovation in cool, long lasting coatings is needed to reduce the urban heat island effect and reduce green house gases. These coatings also need to endure the extreme environment of our changing world.

The world is becoming more **extreme**



CHALLENGES



HISTORICAL SUCCESS



SOLUTIONS

IMPORTANT COATING ATTRIBUTES

COLOR RETENTION

89%

WEATHERABILITY

87%

CORROSION RESISTANCE

86%

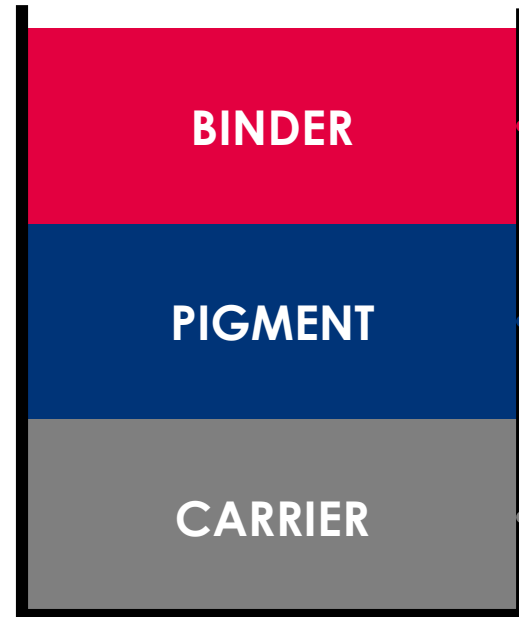
MAINTENANCE FREE

82%

Architects cited these key attributes as the reason for their preference of Kynar 500® PVDF resin based coatings.

WHAT DRIVES PERFORMANCE IN COATINGS?

How do you retain color and gloss while protecting the substrate?



SOLID COMPONENT

- ❖ Resin / Polymer
- ❖ "Glue" for all components
- ❖ Allows for curing
- ❖ Primary source for durability and physical properties
- ❖ UV protection

THE CHALLENGE FOR NON-METAL COATING



AAMA 2605

AAMA 615

AAMA 625

- ❖ Multiple Substrates
- ❖ Low Temp. or No Bake
- ❖ Water Based, Low VOC
- ❖ Factory or Field Application





CHALLENGES



HISTORICAL SUCCESS

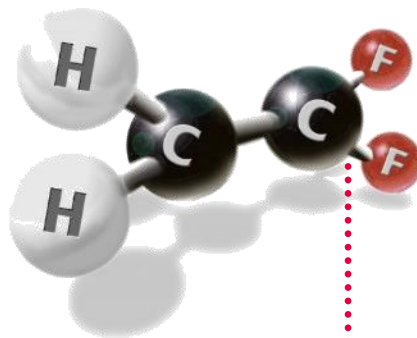


SOLUTIONS

THE POWER OF KYNAR® PVDF

KYNAR®
BY ARKEMA

- ❖ Kynar® (Arkema Inc.)
- ❖ Polyvinylidene difluoride
- ❖ PVDF
- ❖ PVF₂



The (C-F) Bond is one of the strongest bonds in the chemical world

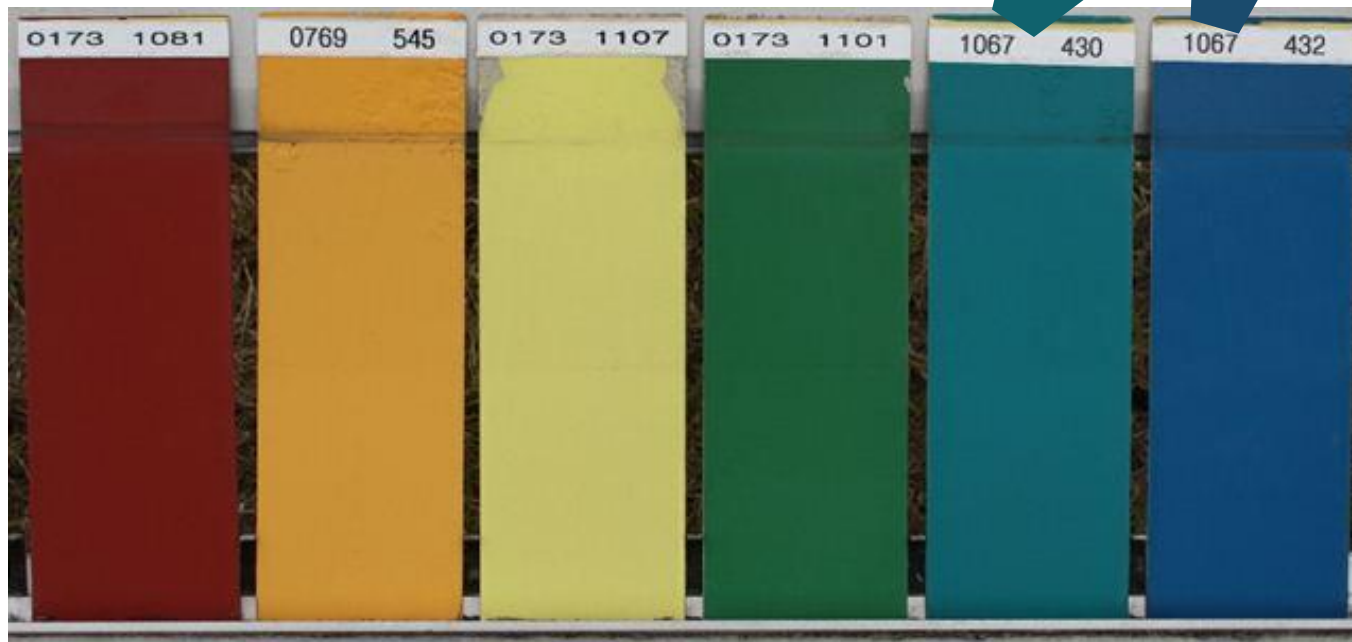
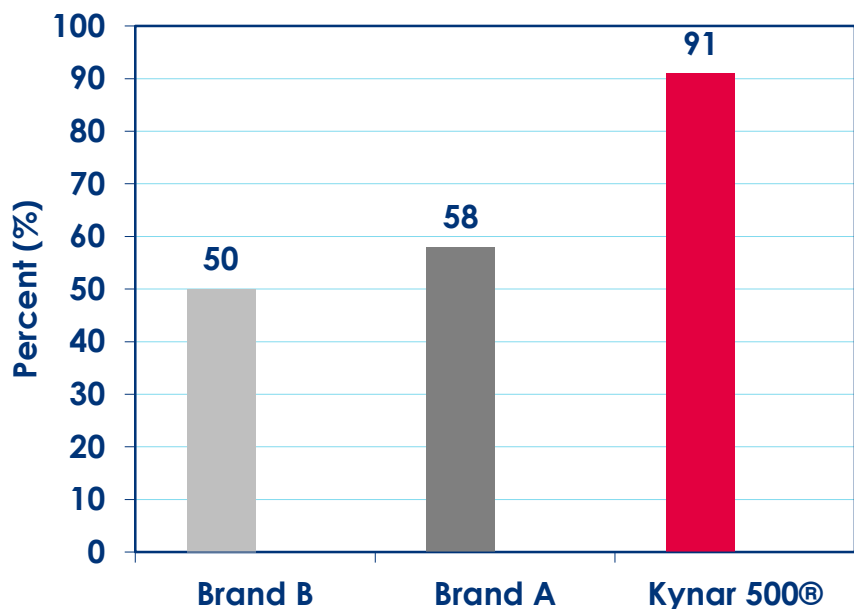
KYNAR 500® PVDF – A LEGACY OF PERFORMANCE

KYNAR500
BY ARKEMA

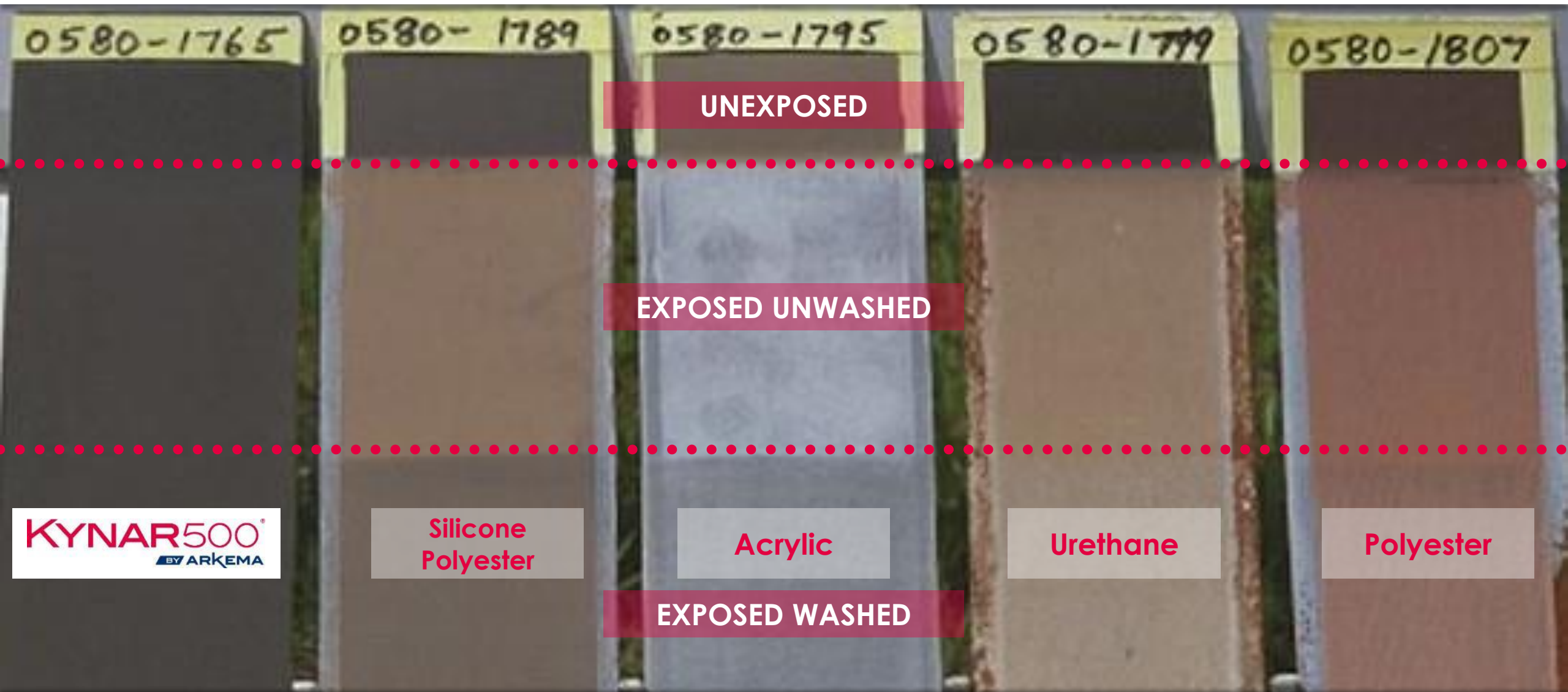


Continuous exposure
since October 1967

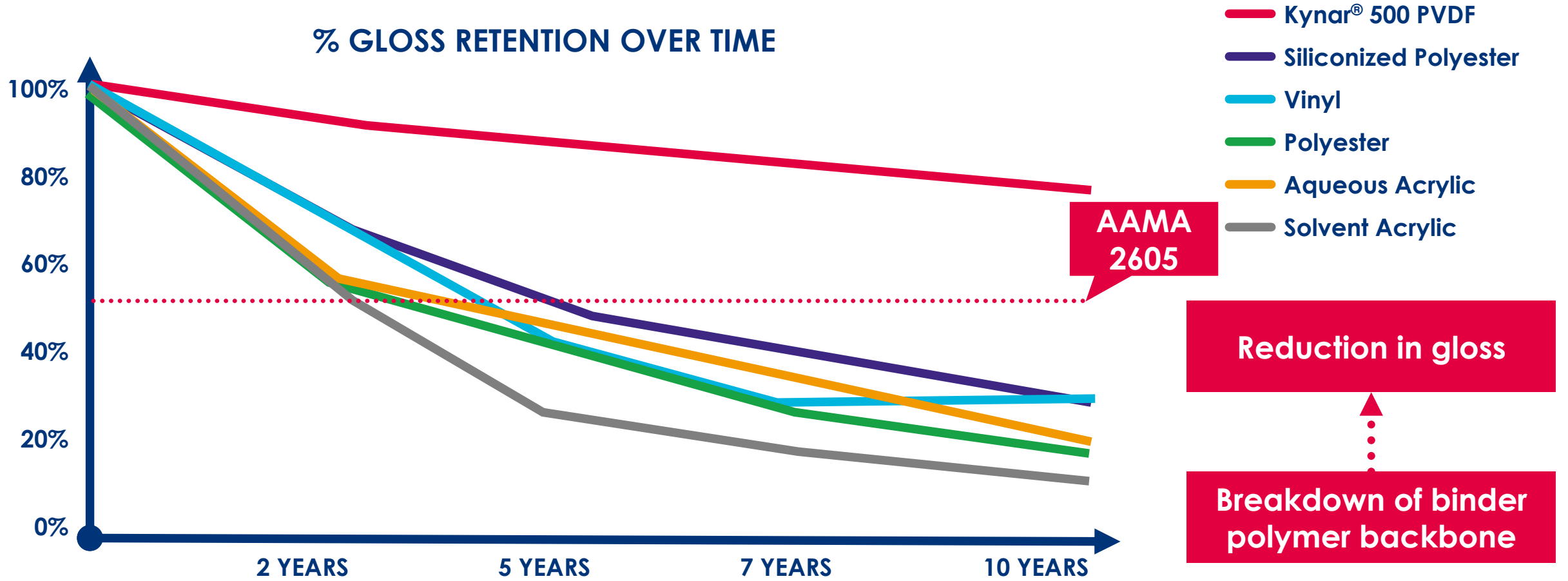
Architects' preferred metal coating brands



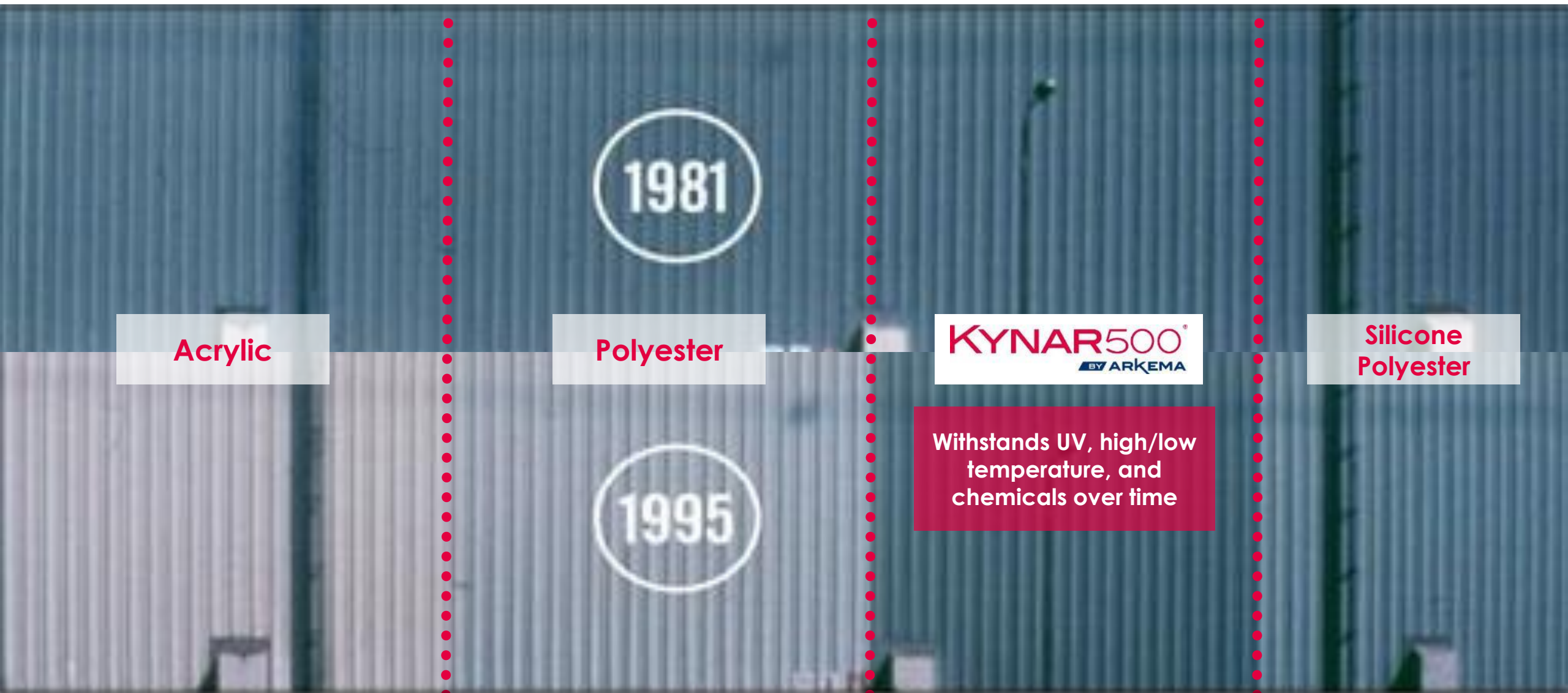
FADE AND CHALK RESISTANCE



GLOSS AND COLOR RETENTION



GLOSS AND COLOR RETENTION



Acrylic

Polyester

KYNAR500
BY ARKEMA

Silicone
Polyester

1981

1995

Withstands UV, high/low
temperature, and
chemicals over time



CHALLENGES



HISTORICAL SUCCESS



SOLUTIONS

WHAT'S THE COMPROMISE?

KYNAR500[®]
BY ARKEMA

- ❖ Metal substrates only
- ❖ High temperature bake
 - ❖ Solvent based
 - ❖ Factory applied

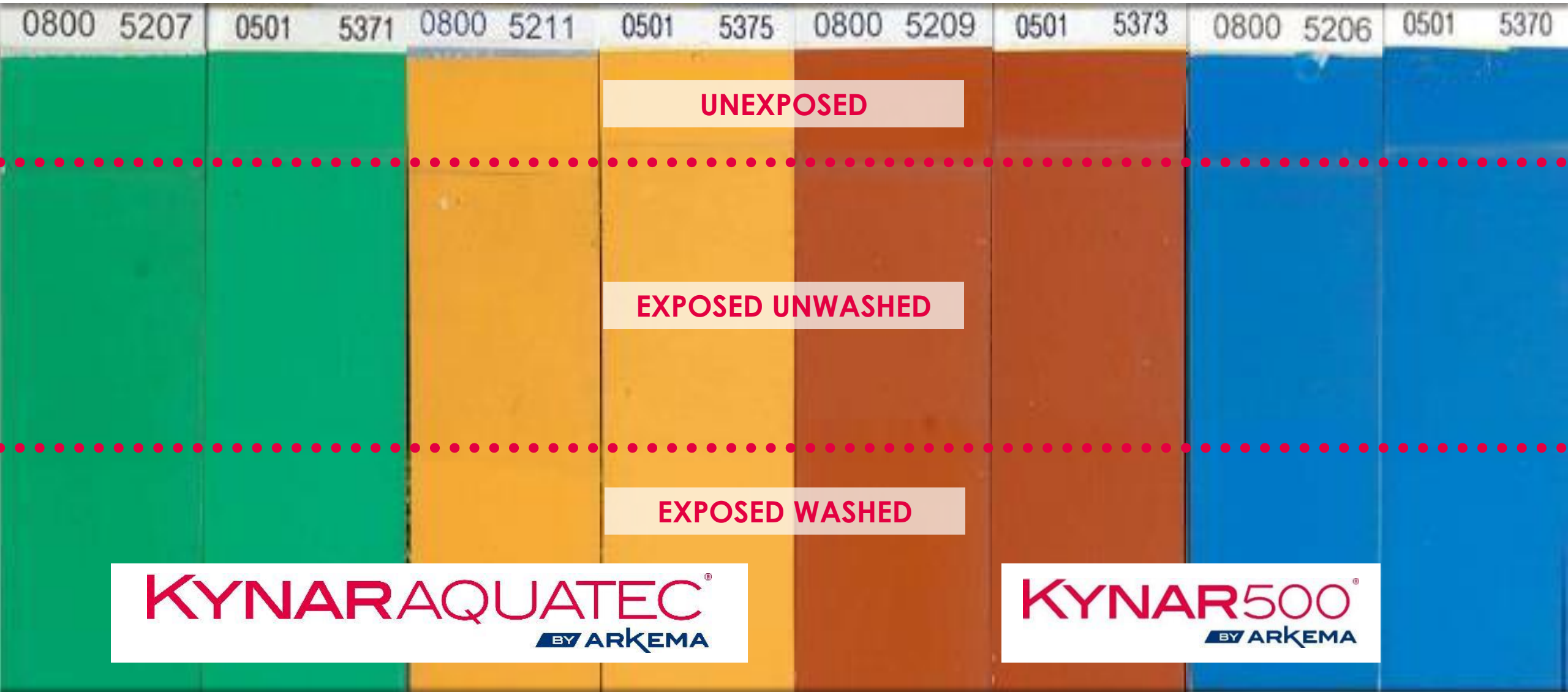
I want Kynar 500[®] PVDF performance, but that's only for metal! I can't cure at high temperatures, I need a low temperature or no bake solution!



- ❖ Coats Multiple Substrates
- ❖ Low Temperature or No Bake
- ❖ Water Based, Low VOC
- ❖ Factory or Field Application

KYNARAQUATEC[®]
BY ARKEMA

KYNAR AQUATEC® – DON'T COMPROMISE



RESISTS DIRT PICK-UP, MOLD, MILDEW, AND FUNGUS

Acrylic Resin
Based Coating

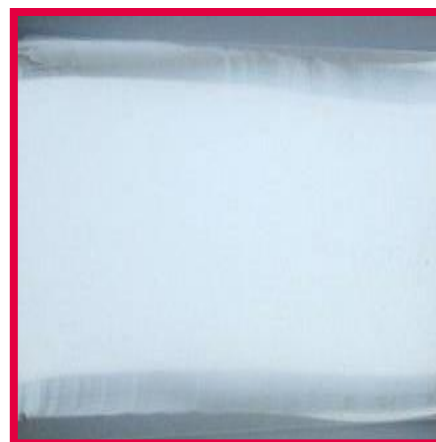
Kynar Aquatec®
Based Coating

KYNARAQUATEC
BY ARKEMA

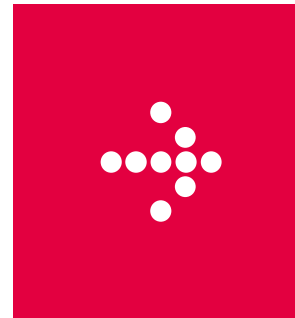
Dirt Pick-Up



Mold, Mildew, Fungus



HIGHLY RESISTANT TO FILM EROSION



**COBALT BLUE PIGMENT
FORMULATION**

**NO UV PROTECTION
FROM THIS PIGMENT**

**ACID TEST FOR BINDER
PERFORMANCE**

MEETING AAMA STANDARDS

	AAMA 615 test number									
	6.3	6.4.1.1/2	6.4.1.3	6.5	6.6	6.7.1	6.7.2	6.7.3	6.7.4	6.7.5
	Pencil	Dry/wet adhesion	Boiling water adhesion	Impact	Falling sand abrasion	Muriatic acid	Mortar resistance	Nitric acid	Detergent resistance	Window cleaner resistance
AAMA Pass Criteria	F minimum	100%	100%, no blistering	No removal of film after 3 mm deformation	min 40 liters/mil	no blistering or visual change	no loss of film adhesion or vis change	Delta E <5	no blistering or visual change	no blistering or visual change
Commercial Arylic Solvent Based Control (2K)	3H	Pass	Pass	Pass 80 in-lb.	18-20	Pass	Pass	Pass	Pass	Pass
Kynar Aquatec® ARC/FMA-12 Paints	HB-2H	Pass	Pass	Pass 80 in-lb.	35-60	Pass	Pass	Pass	Pass	Pass
Kynar Aquatec® CRX (2K) Paints	H-3H	Pass	Pass	Pass 80 in-lb.	40-60	Pass	Pass	Pass	Pass	Pass



ARC (70% PVDF resin) systems have passed 10-year Florida (AAMA 2605) milestone

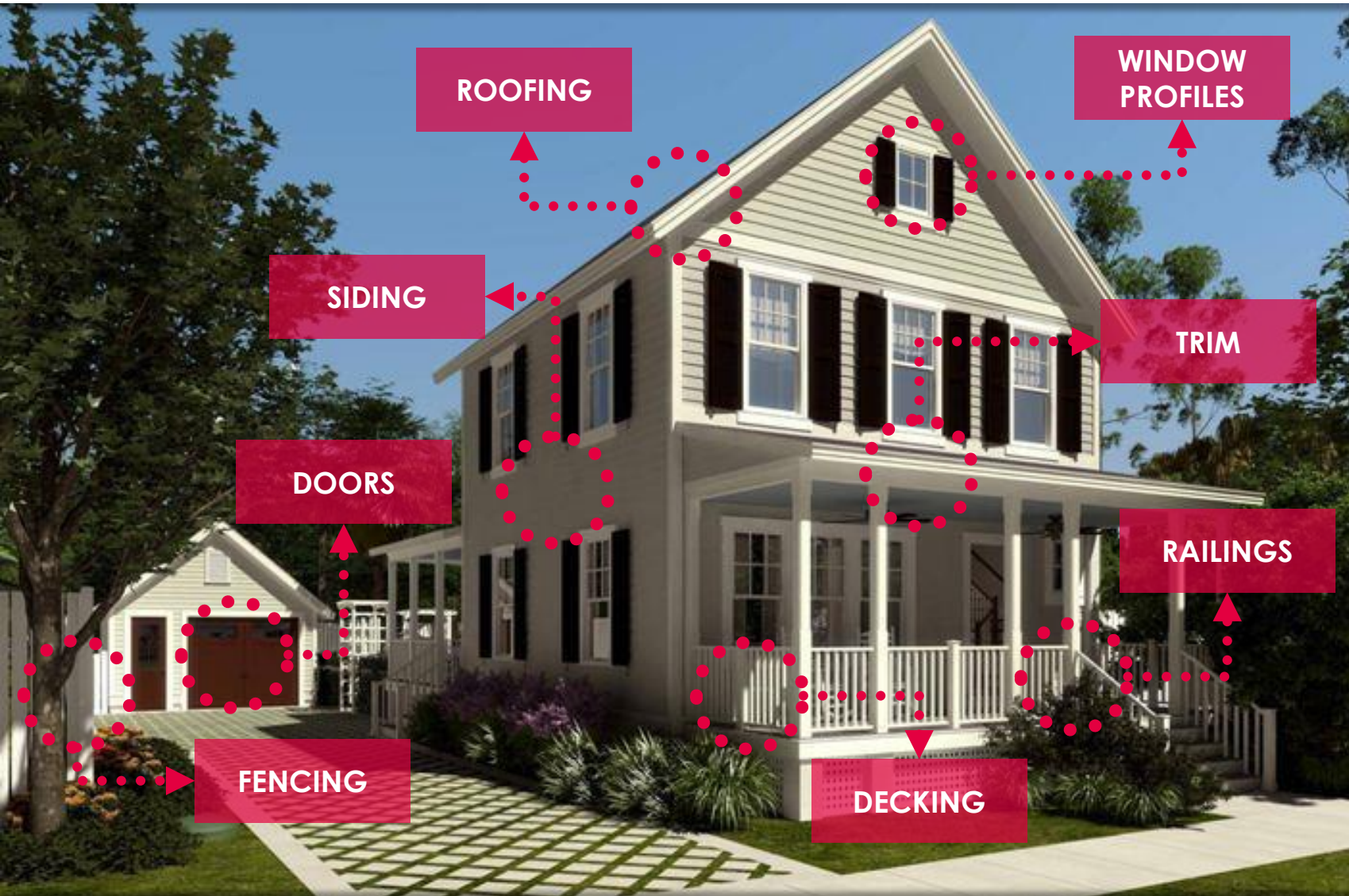


CRX (70% PVDF, crosslinked) systems are now in Emmaqua alternative weathering requirement; expected to pass easily



Both systems should meet all physical property requirements for AAMA 615/625

THE “KYNAR® AQUATEC HOUSE”



❖ Roofing

- TPO, EPDM, BUR, PVC, POLYPROPYLENE, COMPOSITE, METAL.

❖ Window Profiles

- PVC, FIBERGLASS-POLYURETHANE/POLYESTER, ALUMINUM, WOOD.

❖ Siding, Fencing, Shutters and Trim

- CELLULAR PVC, PVC, POLYPROPYLENE, CEMENTIOUS, METAL, POLYOLEFIN

❖ Deck and Deck Railings

- CELLULAR PVC, PVC, FIBERGLASS, COMPOSITES.

❖ Wovens/Non Wovens

- FLEXIBLE PVC, ACRYLIC POLYESTER.

❖ Wood

- CEDAR, MAPLE, SPRUCE, ETC.

KYNAR AQUATEC® COATING BENEFITS

COLOR RETENTION



WEATHERABILITY



CORROSION RESISTANCE



LOW MAINTENANCE



Kynar Aquatec[®] polyvinylidene fluoride latex

KYNAR AQUATEC[®] LICENSE CERTIFICATE

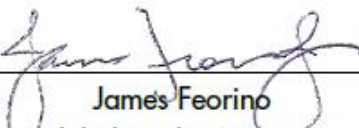


Innovative Manufacturer of
High Performance Coatings

KALCOR COATINGS COMPANY

*Has successfully met all requirements set forth by
Arkema Inc. and has been licensed to produce coatings containing
KYNAR AQUATEC[®] PVDF latex for the years 2016 - 2017.*




James Feorino
Global Market Manager

KYNARAQUATEC[®]
BY ARKEMA