PVDF-BASED COATINGS VERSUS POLYESTER POWDER AND OTHER COATINGS

Case Studies in Performance

NO FADING
NO CHALKING
COLOR RETENTION
GLOSS RETENTION

Test Panels on Exposure at Arkema’s Sub-Tropical Exposure Station
The truth is on the test fence.

Metal has rapidly become the material of choice for exterior use due to its rugged durability, design versatility and aesthetic possibilities. However, for all its bravado and beauty, metal doesn’t necessarily have a tough skin and is only available in a single color. To be both functional and decorative, metal must be coated with a finish that beautifies with color and doesn’t chalk; that won’t lose its color and sheen; that won’t pit, chip or age before its time.

Kynar 500® resin-based finishes are available worldwide through a strict licensing program. This licensed distribution ensures the quality, consistency and high performance of Kynar 500® resin-based coatings.

Performance Testing

Objective
To measure and compare the performance of Kynar 500® resin-based coating systems with competitive coatings for their resistance to weather.

Background
Panels coated with liquid Kynar 500® resin-based coatings and powder coated with other resin systems were exposed on a South Florida test fence for 10 to 17 years. The panels were evaluated periodically during exposure for chalk, gloss and color changes. See table below.

Conclusion
Kynar 500® resin-based coatings outperform polyester powder, urethane, silicone polyester and acrylic coatings in every category: better color retention, better resistance to chalking. The proof is in the pictures of the coated panels. Just compare the unexposed portion (top panels) with the exposed portion (bottom panels). Performance as promised. Time after time. Kynar 500® resin-based coatings.

Florida Exposure 45° South.
17 Years Exposure.

Florida Exposure 45° South.
10 Years Exposure.
Kynar 500®-based coatings are typically solvent-based, but are often confused with powder coatings through the following question, "How does a Kynar 500®-based coating compare to a powder coating?" The easiest answer is that all coating systems, whether liquid or powder, contain a specific resin that acts as the first line of defense against weathering. Ultimately, the resin determines the durability. Kynar 500®-based coating is simply a resin commonly known as polyvinylidene fluoride. Other coating resins include acrylic, polyester, silicone polyester and urethane. In today’s market, liquid Kynar 500®-based coatings are the most common, but Kynar 500®-based coating is also available as a powder coating. Whether you are looking for a liquid coating or a powder coating, the key to product performance is the resin chemistry. For the ultimate long-term durability, time has shown Kynar 500® PVDF resin is the one to choose.

In color-matched accelerated weathering tests, shown above, Kynar 500®-based coating panels clearly outperformed the latest "super durable polyester" powder technology. Contact us at www.kynar500.com for more information on Kynar 500®-based coatings.

<table>
<thead>
<tr>
<th>PANEL NO.</th>
<th>DESCRIPTION</th>
<th>EXPOSURE TIME</th>
<th>ORIGINAL GLOSS 60°</th>
<th>FINAL GLOSS 60°</th>
<th>COLOR CHANGE</th>
<th>CHALK (EXPOSED)</th>
<th>ASTM-D4214</th>
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<tr>
<td>1764</td>
<td>Kynar 500®, Bronze</td>
<td>17 years</td>
<td>31</td>
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<td>6.71</td>
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<td>Kynar 500®, Yellow</td>
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CASE STUDY: TAIYO STEEL

In 1981 in Funabashi Japan, Taiyo Steel Co., Ltd. built a plant for their new coil coating line employing metal walls. A decision was made to make the south wall an industrial test fence, to evaluate the outdoor weatherability of Taiyo Steel's precoated metal products. Ten meter high steel panels were coated with acrylic, polyester, silicone polyester and Kynar 500® resin-based coatings.

In just two short years, there was a significant difference in color retention, gloss retention and chalk resistance between Kynar 500® resin-based coatings and other systems.

After fourteen years, the Kynar 500® resin-based coating was the only system that kept its original appearance, clearly outperforming the other coatings year-in and year-out.

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www.kynar500.com

CONTACT US AROUND THE WORLD

Arkema Inc.
900 First Ave
King of Prussia, PA 19406
USA
Tel.: (+1) 610-205-7000

Arkema K.K.
Fukoku Seimei Bldg 15F
2-2-2 Uchisaiwaicho
Chiyoda-Ku
Tokyo 100-011, Japan
81-3-5251-9665

Arkema
11F, Oriental Chemical Building
50, Sogong-dong
Jung-gu, Seoul, 110-718, Korea
82-2-3703-6822