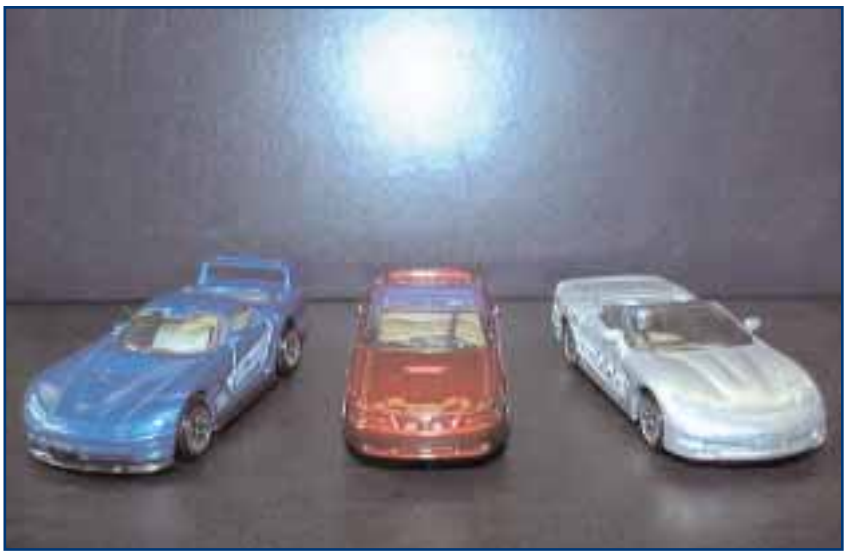
COATING WORLD®
SPECIAL REPORT ON THE USE OF FLUOROPOLYMER COATINGS IN THE INDUSTRIAL WORLD

Detroit's Big Three All Specify Xylan® 5230, New Chromium-Free Fastener-Class Coating

Getting DaimlerChrysler, Ford and General Motors to agree on anything is not exactly an easy task. Yet all of the "Big Three" in Detroit have specified a unique new fastener-class coating from Whitford as an approved engineering material for their automotive fasteners.*

The new coating, Xylan 5230, was developed by Whitford Worldwide, makers of the largest, most complete line of fluoropolymer coatings in the world.



Fasteners used on cars such as DaimlerChrysler's Viper, Ford's Mustang and General Motors' Corvette will be switched to new Xylan 5230, which is absolutely free of heavy metals, including chromium.

What makes Xylan 5230 unique?

The new fastener coating has a variety of characteristics that distinguish it from others, none of which offers all that Xylan 5230 does. These include:

1. It is dry, non-oily and non-greasy.

2. It has a uniform, handsome black appearance.

3. It has outstanding torque/tension control characteristics.

4. It has superb resistance to corrosion and the elements.

5. It has unsurpassed resistance to chemicals, including all automotive fuels, lubricants and fluids.

6. It resists chipping, flaking.

7. It's user-friendly: easy to apply.

8. It works perfectly on many substrates, including aluminum, brass, high-alloy steel, carbon steel, stainless steel, titanium, zinc plating, zinc phosphate, etc.

9. Perhaps most important, it is absolutely free of all restricted heavy metals, including chromium.

What's so important about chromium?

A prime motivator behind the development of Xylan 5230 was the European Union (EU) "End Of Life" Vehicle Directive (2000/53/EC).

In 2000, the European Union approved a plan to reduce the amount of material and elemental heavy metals that were winding up in landfills (with the possibility of leaching out). It included automobiles, in which many parts were made with chromium, including shock-absorber struts and conventional fastener coatings used for corrosion resistance.

While these restrictions do not yet apply to the United States, American auto makers are producing cars for the European market, and must comply with the EU directive by eliminating heavy metals completely by 2007.

The research and development team at Whitford decided to tackle the problem now, so that a better option could be offered to its customers before it was absolutely necessary.

For more detailed information about new Xylan 5230, contact your Whitford representative or call the list of addresses on the back page.

Typical automotive fasteners coated with new Xylan 5230 black.

*Note: The specifications are: DaimlerChrysler (PS-7001), Ford (S303 and S306), and General Motors (6046M).

COATING WORLD

Surprising New Uses For New Industrial Coatings

How Some Recently Developed Coatings Are Solving A Wide Variety Of Diverse Problems In Industrial Applications

Whitford's flexible finishes solve problems on filler cap seals, "O" rings, plastic ducting rings and many other industrial products.

An unusually high investment in research and development at Whitford led the company into "flexible finishes", coatings that enhance the performance of sealing systems in the automotive industry.

These coatings are now finding their way into applications that go way beyond sealing systems. Here are a few examples:

1. Filler cap seals: A leading automotive manufacturer required a coating that would lubricate the seals on fuel-tank filler caps *and* protect the rubber against chemical and corrosive attack. After testing, Whitford's **Xylan 1632** was proven to exceed all requirements and was immediately approved for production.

2. Ducting rings: Rubber seals used to join metal pipework have traditionally used common talc to aid assembly. The problem: When the seals are moulded into a ring, the talc chars, giving an unsightly appearance and increasing friction. Coating them with **Xylan 2020** gives a consistent, low-friction surface finish, eliminating the need for talc while actually enhancing the rubber's natural appearance.

3. Valve seals: Many metal valves have a rubber seal to prevent leakage. These seals sometimes come into contact with aggressive chemicals which can destroy the seal. Coating them with **Xylan 1631** (a) enables them to resist attack, and (b) reduces surface friction to lower the force required to operate the valves.

4. "O" rings: Small seals are used to prevent the ingress of contaminants such as dust and chemicals. Because of their size, it makes economic sense to coat them in bulk. **Xylan 2020** waterborne coatings have been applied by tumble-spray (barrel-spray) with excellent results. This technique involves gradually building up the coating by repeatedly spraying the coating into a rotating barrel containing the "O" rings. The rotating motion ensures continuous agitation of the parts, preventing sticking of individual components and presenting the entire surface for coating.

5. Rubber/metal bonded parts: Components that involve a rubber surface bonded onto a metal body often generate noise due to micro-movement. Coating the elastomeric component with **Xylan 2020**, which contains sophisticated lubricants, eliminates the noise.

6. Heat exchanger systems: Plate heat exchangers use rubber gaskets to separate the channels containing the cooling fluids. The heat exchangers operate at elevated temperatures and pressures, and are sometimes used in harsh environments. The gaskets are attacked by oxygen, leading to premature failure of the heat exchanger. Coating the seals with **Xylan 1631** not only extends the life of the heat exchanger, but provides easy release of the gasket from the surrounding plates for ease of maintenance.

7. Potable water seals: Pipes used in drinking-water systems need seals around joints to prevent leaks. These seals, coated with **Xylan 1238**, facilitate the assembly of pipe sections. As important: Xylan 1238 also meets the stringent safety requirements of the local water companies for products that come into contact with drinking water.

For more information on new Xylan 5230, the Xylan family of flexible finishes or coatings for any industrial application you may have, contact your Whitford representative or call Whitford directly.

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