EXOCOAT® AC (Development Product)
Sol-Gel Resin for Anticorrosive Coatings

Axcentive® has developed a new sol gel resin for anti-corrosion coatings. It is targeted as a replacement for Cr\(^{3+}\) and Cr\(^{6+}\) based chemical conversion coatings.

EXOCOAT® in Coatings
The EXOCOAT range of raw materials for coatings is specifically developed for smart and functional coatings, to obtain functions like easy to clean, superhydrophobic, superhydrophilic, anticorrosive, heat reflective, anti-microbial, anti-fogging and self-cleaning. The technology developed comprises advanced inorganic and hybrid sol-gel-technology, organometallic polymers and nano materials for solvent and water based systems.

EXOCOAT® AC
EXOCOAT® AC may be used as:

- 1 component force cure sol-gel based system
- 2 component room temperature cure sol-gel based system mixed with (3-Aminopropyl)triethoxysilane (APTES)

It is meant to be applied direct to metal (iron alloy, galvanized steel, phosphated steel, stainless steel and aluminium). Avoid use on cold rolled steel.

It converts metal hydroxide surface into a stable, inert covalently bound monolayer.

The principle is to make interface inert by the use of EXOCOAT® AC, which is not only interesting for sol-gel based anti-corrosion coatings, but can also be used for micrometer-thin primers under conventional organic coatings. EXOCOAT® AC can be overcoated by various epoxy or polyurethane systems.

EXOCOAT® AC may omit the use of toxic chemicals and function as replacement for Cr\(^{3+}\) and Cr\(^{6+}\) based systems.
### Characteristics

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<td>Chemistry</td>
<td>Hybrid Sol-gel 60% in isopropyl alcohol (2K)</td>
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| Substrate       | Iron alloy  
Galvanized steel  
Phosphated steel  
Stainless steel  
Aluminium |
| Application method | Spray |
| Use             | Anti-corrosive coatings  
Cr$^{6+}$ and Cr$^{3+}$ replacement  
DTM |
| DFT             | 10-15µm |
| Curing conditions | Room temperature cure 2K |
| Pot life        | 3hrs after mixing component A and B |
| Benefits        |  
- QUV: > 2000hrs  
- Saltspray: >1000hrs GI and AI  
- Weathering test SAEJ2304: >1000hrs  
- Hydrophobic surface (CA$_{H2O}$=90)  
- 4-5H pencil hardness  
- Overcoatability: good |

### Technical Guidelines

Dilution with isopropyl or ethyl alcohol till 30% total solids may be done to facilitate use.

**Technical Guidelines 2K system**

EXOCOAT AC should be mixed with curing agent (3-Aminopropyl)triethoxysilane (APTES), just before use. The best performance ratio is to mix:

- 75 parts of Component A: EXOCOAT AC with
- 25 parts of Component B: APTES on volume basis

Pot life of the mix is 3hrs

*Think about your impact on the environment: reduce, reuse or recycle! Contact Axcentive if you feel we could be of help.*