



TECHNICAL INFORMATION

BLACKHAWK PROTECT

Sourced for Australia's harsh conditions, Blackhawk Protect is available on a range of Blackhawk Fasteners.

Blackhawk Protect is a high-grade coating that creates a chemical barrier against the formation of rust.

This unique processing technology consists of three layers:

- 1. A metallic Zinc layer**
The steel fastener is protected from corrosion by the self-sacrificing galvanic effect of the zinc coating
- 2. A high-grade, anti-corrosion chemical conversion film**
The corrosion resistance is improved as the chemical conversion inactivates the zinc plated surface and creates a tight adhesion between the chemically converted layer and the ceramic surface coating
- 3. A ceramic surface coating that is baked onto the fastener**
Corrosive elements are intercepted by this strong ceramic coating

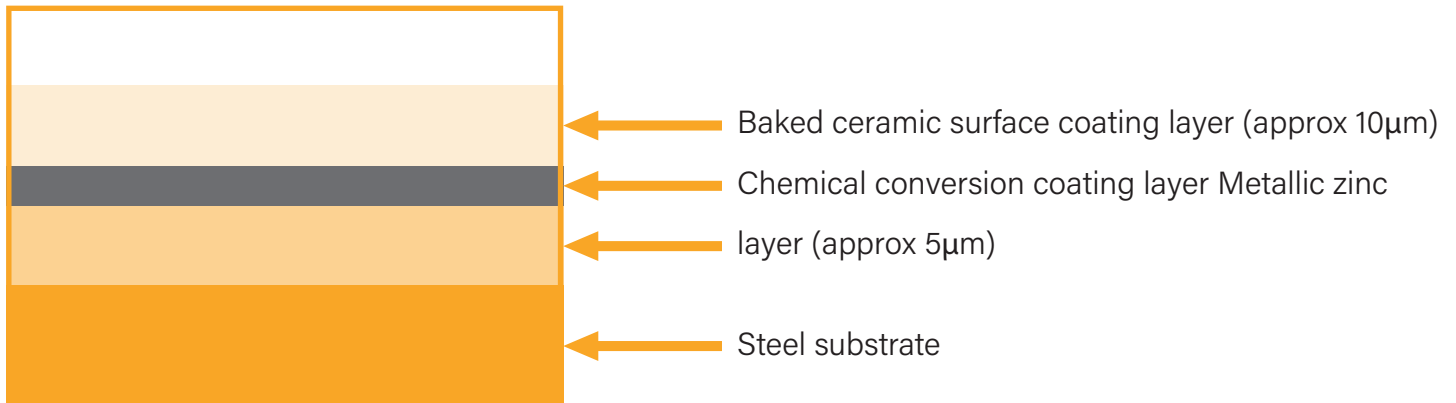
The enhanced performance of Blackhawk Protect does not rely on one single material, but the synergy of these three layers.

What makes Blackhawk Protect stand out from other coating methods is the way that the ceramic surface coating and chemical conversion film are tightly bonded together through chemical reactions. This process results in a rigid combination of the coating films.

Blackhawk Protect offers:

- Superior corrosion resistance against salt water and other weathering conditions
- Minimal risk of corrosion through scratches or damage due to the composite layers
- Less risk of galvanic corrosion (a electrochemical process where one metal corrodes prematurely due to contact with another type of metal)
- A low processing temperature which means less chance of changes in the internal structure of the fastener
- An environmentally friendly product that is free from hazardous chemicals including lead, cadmium, mercury and hexavalent and trivalent chromium which are specified by the RoHS (Restriction of Hazardous Substances)

COMPOSITION OF TRI-LAYER COATING



COATING TEST METHODOLOGY

TEST ITEMS	TEST METHODS	TEST RESULTS
Hardness	Peeling test by pencil hardness	Over 4H
Adhesion	Peeling test by adhesive tape on cross scribed test piece in 1mm width	Nothing abnormal
Acid resistance	Immersion in 5% sulfuric acid solution for 24 hours	Nothing abnormal
Alkali resistance	Immersion in 5% sulfuric acid sodium hydroxide solution for 72 hours	Nothing abnormal
Heat resistance	Exposure to 250°C (482°F) heat for an hour	Nothing abnormal
Accelerated weather testing	Exposed to 5% salt mist continually for 1,000 hours	Free from red rust

Blackhawk recommends that you discuss the environmental factors in your area with your builder or local council prior to commencing work. Blackhawk Protect is not suited for applications within 5km of a salt water body.

