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Product Data Sheet:ELK9132AH160804A

Fast Koat® 9132AH Chrome-Free Passivator

Passivation of Blue Zinc-Plated Substrates

Characteristics:

- 1. Excellent Corrosion Resistance.
- 2. Excellent Paint Coatability.
- 3. Contains no Chrome (VI or III).
- 4. Conforms to RoHS Regulations.
- 5. Conforms to Stringent VOC Regulations.
- 6. Easy to Use.
- 7. Economical.

Description:

The toxicity and environmental effect of chromium compounds have raised major concerns in recent decades, despite their successful applications in metal finishing industry for centuries. One of the applications is the passivation of zinc-plated metals, to improve their corrosion resistance, first with highly toxic chromate (VI) and more recently with chromium (III) salts. Still, efforts and aspiration have been focused on chrome(VI or III)-free alternatives, for which safety and ecology are the major concerns.

Fast Koat® 9132AH is an aqueous complex solution containing nano-grade dispersion particles. When used in properly diluted concentrations, in place of conventional chrome-containing passivators (VI or III), the nano-particles will impart excellent corrosion resistance to the zinc-plated work pieces, at the minimal expense of their appearances. As long as the concentration and pH value of diluted Fast Koat® 9132AH solution are closely monitored, maintained and regularly filtered, to avoid any contaminations, its performance and consistency can be assured.

In general, the corrosion resistance of zinc-plated surface is highly affected by the electroplating conditions and after-finishes therewith. When used properly, <code>FastKoat®</code> 9132AH can improve the corrosion resistance of zinc-plated work pieces significantly, no inferior to those by the conventional chrome-containing passivation. Additionally, the zinc-plated substrates treated with <code>FastKoat®</code> 9132AH have shown homogeneous blue appearance and excellence to paint-coatability.

Fast Koat® 9132AH contains no chrome (VI or III) or any other heavy metal

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salts which may raise environmental or healthiness issues. There are also no organic volatiles detected in the *Fast*Koat[®] 9132AH solution. In summary, *Fast*Koat[®] 9132AH meets the highly stringent regulations, such as RoHS directives.

Suggetions of Use:

Note:

FastKoat[®] 9132AH is weakly acidic and contains low amounts of acids. As a result, general precautionary safety measures, such as goggles, gloves and well-ventilated areas, are required, when handling the solutions. Avoid any direct contact of **Fast**Koat[®] 9132AH solutions with skin and eyes. Once contacted by accident, thorough rinse with water immediately is suggested.

In practical applications, **Fast**Koat[®] 9132AH has to be diluted with proper amount of deionized water, as the ready-to-use to activate the passivation. Work pieces, when freshly zinc-plated and rinsed, are immersed in the diluted **Fast**Koat[®] 9132AH solution for 20~30 seconds, followed right after by the rinse two or three times and thoroughly with deionized water, to remove any trace of residues. Then centrifugal and accelerated heat-drying conclude the finishes as in conventional process.

An initial suggestion of the procedure for using <code>FastKoat®</code> 9132AH in passivation can be listed as follows. However, the actual concentrations of <code>FastKoat®</code> 9132AH required for the purpose are subject to variations of individual corrosion targets and other options.

To ensure consistent performance, the prepared on-line solution of **Fast**Koat[®] 9132AH has to be closely monitored and controlled, with respect to the range of pH value and its non-volatile within 10% of its initially prepared concentration. To avoid any potential contamination from carry-over, the zinc-plated metal pieces should be rinsed thoroughly with D.I. water, before any contact with the **Fast**Koat[®] 9132AH solution.

Furthermore, A daily filtration of the prepared *Fast*Koat[®] 9132AH passivating solution after use is highly recommended, to remove any contaminated impurities. The holding tank containing the *Fast*Koat[®] 9132AH solutions has to be covered after use. The containers and tools in contact with the *Fast*Koat[®] 9132AH have to be cleaned with water immediately after use.

Specifications:

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Appearance: Amber translucent solution

Chemical Type: Organo-Inorganic Complexes

Active Ingredient, 110 °C x 2 hour $18.0 \pm 1.0 \%$

Specific Gravity, g/cm3, 25 °C 1.10 ± 0.01

pH Value 2 ~ 3

Surggestions of Storage:

Unused, sealed **Fast**Koat[®] 9132AH in original container is guaranteed with pot life of six months as minimal, if stored in a cool, well-ventilated area and avoid any direct exposure to sunlight.

For those open, untempered **Fast**Koat[®] 9132AH in original containers, we suggest them sealed immediately after use, and be used up within three months.

For those used, tempered *Fast*Koat[®] 9132AH, when not in-use for production, we suggest them, to avoid contamination and minimize evaporation, be covered securely or even better, sealed tightly in a clean contained in a cool, well-ventilated area. They must be used up in earliest time.

Packages:

Fast Koat® 9132AH is supplied in two forms of packages, namely, 20 kilograms in plastic pails and 200 kilograms in plastic drums, respectively.