

CONDURSAL N623P

Water base stop-off paint for nitriding / nitrocarburizing

List for Troubleshooting

Preface

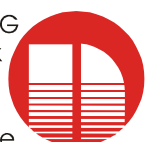
CONDURSAL N623P can be applied easily, similar to an oil paint. So it is important to clean and degrease the surfaces to be coated thoroughly prior to painting. Also it is important that the surfaces be free of oxides or passive layers whatsoever.

As a main component CONDURSAL N623P contains a metal powder which might have settled at the bottom of the tin after extended storage time. Therefore it is recommended to stir the paint thoroughly prior to use; **just shaking the tin will not provide satisfactory homogenisation!**

Soft brushes should be used for painting in order to provide a coating of uniform thickness. Before the parts are put into the furnace, the coating must be completely dry **which can be checked by fingernail test.**

For cases where in spite of proper use poor insulation effect or other trouble is noted, please find listed below the possible defects, the reason why they can occur and the way how to avoid them.

TROUBLE	POSSIBLE REASONS FOR TROUBLE	HOW TO AVOID TROUBLE
Paint runs off after applying	1. Workpieces have not been degreased satisfactorily prior to coating	Clean parts thoroughly by vapor degreasing or alkaline washing prior to applying the paint
	2. Workpieces were too warm at the time when paint was applied (for instance after vapor degreasing)	Let workpieces cool down to ambient temperature (20 to 25 °C) prior to coating
	3. Paint has not been stirred or has been thinned excessively	Use paint as delivered but stir thoroughly prior to use; add very small amounts of clean water only if thickening has occurred due to evaporation
	4. Paint has been applied in a too thick coating	Apply paint in a thin coating of uniform thickness; if necessary because of long nitriding time, apply twice but make sure that first coating has dried completely before second one is applied
Paint pops off after drying	Surfaces of workpieces have been wet or greasy when paint was applied	Clean parts thoroughly by vapor degreasing or alkaline washing and make sure that they are dry prior to coating



TROUBLE	POSSIBLE REASONS FOR TROUBLE	HOW TO AVOID TROUBLE
Paint runs off in the nitriding furnace	1. Paint has been applied in a too thick layer / coating has not been allowed to dry thoroughly	Apply paint in a thin coating of uniform thickness and let it dry thoroughly
	2. Parts have been preoxidized at temperatures of more than 380 °C	Limit preoxidizing temperature to 380 °C max.
	3. Coating has come into contact with oxygen in the nitriding furnace due to <ul style="list-style-type: none"> - Incorrect atmosphere control - cracking / leaking of the retort of the furnace 	Repair generator Repair retort
Protection against nitrogen pickup has been found to be non-uniform or nonsatisfactory	1. Paint has been applied in a too thin or non-uniform layer	Stir paint thoroughly prior to use; apply paint in a layer of even thickness; if necessary for long nitriding times apply twice but keep in mind that first coating must be completely dry before second one is applied
	2. Paint was applied to oxidized or even rusty parts	Remove any oxide / rust layers prior to applying the paint
Insulation or poor nitriding / nitrocarburizing has occurred in non-coated areas	1. Parts have been put too close together within the batch	Avoid direct contact or too close settling of coated and noncoated parts / areas within the load
	2. Coated areas did exceed 30% of the total surface of the batch	Do not insulate more than 30% of the total surface
	3. Poor atmosphere circulation in the retort	Improve atmosphere circulation
Workpieces show small silvery spots on non-coated surface areas after nitriding	Paint has dripped down from areas coated with excessive thickness or from holes / internal threads filled with the paint or residues left in the retort from the previous nitriding processes have been blown across the batch by the circulating gas atmosphere	Apply the paint not excessively thick; do not pour it into holes / internal threads filling them completely. Remove the dusty residues of CONDURSAL N623P from the retort after every nitriding cycle using a vacuum cleaner
Inspection claims that a white nitriding layer has been found under the CONDURSAL N623P coating	In most cases the detected layer is in fact not a nitriding layer but a thin tin coating which is normal and necessary for effective protection provided by CONDURSAL N623P	Effective protection can be proven easily in such a case by measuring the microhardness of the layer

Exclusion of liability

The content of this leaflet is based on our actual knowledge. It provides a description of the product regarding properties and application without giving any guarantee or other legal binding assurance. It does not relieve the user from the responsibility of carrying out his own tests and experiments to check its suitability for his application. Also it is the user's responsibility to make sure that any proprietary rights and existing legislation are observed.

