

# CONDURSAL N623p

## Water Base Protective Paint for Gas Nitriding and Nitrocarburizing

### Properties

CONDURSAL N623p is a stop-off paint providing excellent protection against pick-up of nitrogen during gas nitriding. It provides further enhanced properties regarding performance of protection and easy applicability while the other characteristics have been kept constant. It is suitable even for longtime nitriding up to 90 hours at temperatures ranging between approx. 500 and 590°C.

CONDURSAL N623p is practically free of solvents which is an important feature with respect to health and safety regulations. Precisely limited insulation areas are easily achieved with CONDURSAL N623p by painting. If applied properly, the CONDURSAL N623p coating does not creep or run off and there is no interference or "radiation" to non coated workpiece areas.

### Instructions for Use

The areas to be coated must be clean, i.e. free of dust, rust, oil and grease. This is normally achieved by either washing with alkaline, by vapor degreasing with solvents or by shotblasting. Do not pre-oxidise / preheat the parts to be coated; even very thin oxide or other passive layers on the surface would prevent the paint from function and thus must be removed before the paint is applied. Preheating of the coated parts must be limited to 380°C **maximum**.

Before applying the paint, stir the contents of the container thoroughly. To apply the paste by painting, use flat clean brushes with soft bristles and make sure to get a coating of uniform thickness. Normally one coating is sufficient for effective insulation. Only in the case of critically shaped areas such as threads, edges or sharp radii, a second coating transverse to the edges is recommended. For optimum insulation, it is necessary to make sure that the coating has been drying thoroughly before the parts are put into the furnace.

### Drying time

Drying time, which strongly depends on coating thickness, ambient and workpiece temperature, atmospheric humidity etc. can range from approx. 3 to 8 hours. For effective protection it is important to have the coating thoroughly dried before heat treatment is started. This can be checked by "fingernail test".

**Thinning of the paint**, which can be necessary if it has thickened in the course of time due to evaporation, can be achieved using small amounts of water. Avoid overthinning; it would impair adhesiveness as well as protective effect of CONDURSAL N623p. To prevent thickening of the paint, the tins should always be closed hermetically after use.

**Removal of Residues:** After nitriding, the residues of CONDURSAL N623p can be removed using a steel brush or by shotblasting.

### Cleaning of Equipment

To clean brushes or other equipment, which had contact with the paint, tap water can be used, provided the paint residues are still wet. Otherwise solvents are necessary to soften and remove the dried paint.

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## Special Notes

1. Coated areas of the workpieces shall not exceed 30% of the total surface of the batch to be nitrided because otherwise the nitriding atmosphere might be affected.
2. Residues of CONDURSAL N623p are of powdery appearance after the nitriding process. So, because of the gas turbulence in the furnace, some of them occasionally are getting off from the surface of the components and are left as a deposit in the retort. Since this might lead to soft spots on uncoated areas of nitrided workpieces later on, it is recommended to remove the powder (which is easy to detect because of its green color) from the retort after every nitriding cycle using a vacuum cleaner.

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