

ISOTECT OW 601

WATER DILUTABLE RUST PREVENTIVE

DESCRIPTION

Zinc and Aluminium die casting parts and galvanized work pieces often lose their decorative gloss within a short time. The reason is the formation of water stains while the parts are quenched out of the casting heat - or the formation of white rust by the influence of the atmosphere.

BENEFITS

- free from heavy metals
- suitable for zinc and aluminium diecasting

The surface is protected from these influences and the metal gloss remains by dipping or quenching in ISOTECT OW 601-emulsions.

The product is delivered as transparent concentrate and provides an opaque emulsion when mixed with water.

ISOTECT OW 601 is used as 1- 3 % emulsion. To make up the emulsion, the necessary amount of concentrate is stirred into a measured amount of water. Stir until the emulsion is homogeneous.

The most favourable operating temperature is approx. 80 °C, as in this case the water immediately evaporates from the parts surface after having taken them out of the bath and merely a uniform protection film remains on the surface. We recommend therefore to warm up the ISOTECT OW 601-emulsion to this temperature prior to processing. The emulsions can, of course, also be used in low bath temperatures.

Die casting parts are normally cooled in the emulsion after casting. Hot-dip galvanized work pieces are dipped into the emulsion directly after the zinc bath, after the complete "formation of bloom".

During the operation, the emulsion warms up by the heat of the work pieces. The bath volume should be sufficiently calculated in order to avoid the emulsion's boiling caused by the heat intake.

The concentration indication of 1–3 % is a recommendation. Depending on the corrosion prevention requirements, this means the intended time of prevention or the storage conditions, the concentration can be varied to achieve a more or less thick protective film.

The protective film can easily be removed prior to a further process by a usual washing agent. ISOTECT OW 601 does not contain silicone so that a later surface treatment is possible without problems.

Determination of concentration:

The determination of concentration is made by hand refractometer. Just put a drop of the emulsion on the prism of the hand refractometer, read the scale interval and multiply this factor by 1.7. For this procedure it is important not to catch impurities that might be observed on the surface because this would falsify the measurement.

The control of concentration can also be carried out by means of the acid split method (separation with hydrochloric acid). This method is especially recommendable for emulsions that have been in use for a longer time.

Determination: 100 ml of ISOTECT OW 601-emulsion are put into an oil tester (acid split), filled with acid and warmed up in a water bath to 90–100 °C for 1–2 hours. The floating portion of fat multiplied by factor 2.5 provides the portion of ISOTECT OW 601-concentrate.

Only valid in combination with EC Safety Data Sheet

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BATH MAINTENANCE

In case of quenching diecasting parts, the ISOTECT OW 601 bath does not require a special maintenance except from the concentration control.

If, however, hot dip galvanized parts are dipped after pickling, the pH-value of the ISOTECT OW 601-emulsion can fall due to acid residues taken in. As soon as it should fall to approx. 8.0 it must be raised up to 8.5–9.0 by adding a small amount of soda.

PHYSICAL DATA

Appearance/20°C	brown, slightly turbid liquid
Density/20°C (ASTM D7042)	approx. 0.986 g/cm ³
Viscosity/40°C (ASTM D7042)	approx. 80 mm ² /s
Pourpoint (DIN ISO 3016)	< 0 °C
pH value/20°C, stirred, 5% in 62 ppm CaCO ₃ water (DIN 51369)	approx. 9.5

FACTORS FOR THE DETERMINATION OF CONCENTRATION

Concentration [%] = consumption ml hydrochloric acid x factor):

Titration of a 10 ml sample with 0.1 N HCl up to pH 4, factor: 1.47

STORAGE AND HANDLING

The storage temperature should be between 5 - 25 °C. Frost should be avoided.

The use by date on the container should always be observed.

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