

Henkel

Surface

Technologies

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TECHNICAL DATA BULLETIN

RIDOLINE 425

A. SUMMARY

1. INTRODUCTION

Ridoline 425 is a liquid, acidic heavy duty immersion cleaner for aluminium substrates. The cleaning bath made from **Ridoline 425** is slightly etching and free rinsing. It effectively removes drawing lubricants and compounds and tends to maintain the original bright surface.

The surfactants used in **Ridoline 425** are classified by the manufacturer as biodegradable.

2. MAKE UP AND OPERATION

Ridoline 425 cleaner is made up at 20 litres per 1,000 litres of bath for immersion application at 30-50°C with a contact time of 1-2 minutes.

The bath is controlled by a single titration. The bath may be operated cold if made up with 50-100 litres of **Ridoline 425** per 1,000 litres of bath. Under these conditions, heavy oxide layers and corrosion residues can usually be removed in 1-2 minutes.

3. PROCESS SEQUENCE

1. Clean with **Ridoline 425**.
2. Rinse.
3. Rinse (optional, and may be hot.)
4. Dry.

Parts should be painted within one hour.

4. EQUIPMENT

Tanks and equipment for use with **Ridoline 425** must be constructed from acid resistant material. Stainless steel (type 316) is preferred, and welded joints should be passivated with nitric acid diluted 1:4 with water at 50°C for 20 minutes.

TECHNICAL DETAILS

BATH MAKE UP AND CONTROL

(a) Make Up

For each 1,000 litres of bath, add with mixing:

Water	980 litres
Ridoline 425	20 litres

(b) Control Points (for normal operations)

Ridoline titration	6-8 ml
Reaction Products Titration	10 ml max

2. TESTING AND BATH MAINTENANCE

(a) General

During the operation of the **Ridoline 425** bath, aluminium will be dissolved and the level will increase, gradually reducing the effectiveness of the cleaner. The level of dissolved aluminium can be monitored by titration and controlled by partial dumping, or regular overflow.

(b) Ridoline Titration

- (i) Pipette a 5 ml sample of the bath into a flask and add 100 ml water.
- (ii) Add 10 drops of Phenolphthalein Indicator solution.
- (iii) Titrate with 0.1N Sodium Hydroxide until the first faint pink colouration is observed. Record the number of millilitres of Sodium Hydroxide as the "A" titration.
- (iv) Using the same sample as for the "A" Titration, add 3 gm AR Sodium Fluoride. Shake to dissolve. The sample will now turn pink if dissolved aluminium is present.
- (v) Titrate the sample with 0.1N Hydrochloric Acid until the pink colour just disappears. Allow to stand for one minute, and if colour reappears, titrate again to a colourless end point.
- (vi) Record the total number of millilitres of Hydrochloric Acid used as the "B" titration.

The **Ridoline** Titration = Titration "A" - Titration "B" and should be kept between 6-8 ml by addition of **Ridoline 425**.

2. TESTING & BATH MAINTENANCE

(b) Ridoline Titration

(vii) Replenishment

For each 1 ml lacking in the **Ridoline Titration**, add 3 litres **Ridoline 425** per 1,000 litres of bath.

(c) Reaction Products

Reaction Products = Titration "B". Titration B measures the amount of dissolved aluminium in the bath and for optimum performance, should not exceed 10 ml.

Normally, carryover will help stabilise the level of the Reaction Products; but if the figure is exceeded, then the following method of bath stabilisation should be used:

- (i) Record the number of days taken for the Reaction products to reach 10 ml.
- (ii) Divide the volume of the bath by the number of days recorded. This is the volume, which must be drawn off daily to keep the Reaction Products below 10 ml.

3. OPERATIONAL RECOMMENDATIONS

- (a) The initial charge and replenishment data contained herein are normal for most installations; however, your Henkel Technical Representative may suggest a deviation from this data if indicated by local conditions.
- (b) If the work is heavily soiled and additional cleaning power is needed, a detergent cleaner additive may be added to the bath. Your Henkel technical representative will recommend the proper type of additive.
- (c) Whenever a portion of the bath is discarded or lost by leakage, the volume should be restored with the same proportion of chemical and water as used in the original bath.

4. AFTER TREATMENT

After treatment with **Ridoline 425**, the work must be thoroughly rinsed with hot or cold water. The work is then ready for further processing.

If the work is to be treated with **Alodine**, drying is not necessary.

5. PLANT MAINTENANCE

- (a) Cleaner stage should be skimmed or overflowed to keep the surface clean, and dumped when excessive contamination is observed.
- (b) Water rinses should be dumped daily and made up afresh.
- (c) When a spent **Ridoline** bath is discarded, the tank, heating coils etc. should be cleaned and flushed with water.

6. HANDLING PRECAUTIONS

Ridoline 425 is an acidic material. Gloves, apron and face shield should be worn when handling the liquid.

Spills should be neutralised with soda ash and washed away immediately.

If splashed onto any exposed skin or in the eyes, wash immediately with copious amounts of water and obtain medical attention.

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