riag Oberflächentechnik AG · Postfach 169 · CH-9545 Wängi TG

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riag Clean 613

Electrolytic degreasing process

riag Clean 613 is an alkaline degreasing process which is intended to be used for iron and steel.

Properties

- Highly alkaline powder
- Suitable for iron and steel
- High conductivity

Ingredients

- Sodium hydroxide
- Silicates
- Carbonates
- Phosphates
- Salts of organic acids

Make up of riag Clean 613

	Electrolytic
riag Clean 613 Salt	70 – 150 g/L
riag Clean*	0 – 0,1 mL/L
Temperature	20 – 65 °C
Time	1 – 15 min.
Current density	At least 6 A/dm^2

riag Clean*: for the best solution contact our sales department.

Make up

The tank is filled to $^{2}/_{3}$ with water. Add the calculated amount of **riag Clean 613 Salt** and stir until the salt is dissolved. Adjust the required amount water up to the working level. Once the cleaner has reached its working temperature, it is ready for use.

Operating parameters

Temperature:	20 – 65 °C, an increased temperature improves the cleaning performance
Time:	anodic max. 15 minutes, preferable for steel cathodic max. 3 minutes, any hydrogen embrittlement must be considered
Current density:	At least 6 A/dm^2
Voltage:	at least 6 volt
Anodes:	Steel anodes, in particular also nickel-plated
Agitation:	Recommended (shorter treating time), as it supports the cleaning process
Tanks:	Plastic or lined steel, when using ultrasonic high alloy steel
Heating:	High alloy steel or immersion heaters, thermostatic control is recommended
Fume extraction:	Recommended
Water:	To ensure a long service life and trouble-free use, we recommend the use of reverse osmosis, demineralized or deionized water.

Maintenance

Depending on the application, **riag Clean 613** can be used with different concentrations. The concentration has to be checked after each make up by analysis to stay in the desired working range.

Environmental considerations

All concentrates, rinse waters and waste solution must be treated and discharged in accordance with local effluent control regulations. Further information can be gleaned from the MSDS. Chemicals may not be stored below 10 °C:

Liability

This instruction manual was compiled with reference to the state of the art and all current standards, and is based on the long-term knowledge and experience of riag. However, riag cannot monitor compliance with this instruction manual and the methods described herein at the customer/end-user's premises. Work carried out with riag products must be adapted accordingly to meet local conditions. In particular, riag cannot accept liability for damage, loss or cost incurred due to a failure to adhere to this instruction manual, improper application of the methods, unauthorised technical modifications, insufficient maintenance or the absence of maintenance in respect of the requisite technical hardware or equipment, or in the event of use by unqualified personnel. riag is not liable for damage or loss caused by riag or its employees except where intention or gross negligence can be proved.
riag furthermore reserves the right to make changes in relation to products, methods and the instruction manual without prior notice.

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This transaction is governed by material Swiss law (Law of Obligations), excluding private international law (conflict of laws) and intergovernmental treaties, specifically the CISG.

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Analysis (Analytical methods)

Sample preparation:
The sample must be taken from a well-mixed location and allowed to cool down to 25 °C.

Reagents:	Hydrochloric acid 1 mol/L Methyl orange solution 0.1 % in water	
Procedure:	5 mL	**riag Clean 613** are transferred via pipette into a
	150 mL	beaker, add
	100 mL	deion. water, add
	3 drops	methyl orange solution
		Titrate with hydrochloric acid 1 mol/L from yellow to red
Calculation:	**riag Clean 613 Salt** (g/L) = use of HCl in mL x 9.3	

If the degreasing process doesn't work properly anymore, even though the concentration is within the desired range, a new makeup is necessary.

Attention:

Chemicals not intended to be added to the process may disturb and influence the quality of the processed surfaces.