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

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riag Act 698

Acidic pickling process

riag Act 698 is a liquid, which contains detergents and inhibitors for an acidic derusting or descaling process. It can be used for many different base materials.

Properties

- Activation of nickel-alloys (kovar, NiP) and stainless steel possible
- Liquid, used as additive in high concentrated acids or acid mixtures
- Special detergents for the use in acids
- Further cleaning processes required

Ingredients

- Inhibitors
- Nonionic surfactants

Make up

	Standard value
Hydrochloric acid, liquid 32 % (e.g.)	500 mL/L
riag Act 698 Surfactant	400 mL/L
Water (fill up to final volume)	100 mL/L

Make up

The tank is filled with water as much as possible. While stirring, carefully add the calculated amount of acid. The **riag Act 698 Surfactant** is added and topped up with water until the working level is reached. Once the pickling reaches its working temperature, it is ready for use.

Operating parameters

Temperature	20 – 80 °C	
Dipping time	1 – 15 min. (optimum: 2 – 3 min.)	
Agitation	Recommended (shorter treating time), as it supports the cleaning process	
Tanks	Plastic or steel with acid resistant coating	
Heating	Immersion heaters, if needed	
Fume extraction	Recommended	
Activation	Cast iron:	45 – 55 °C
	Steel:	55 – 70 °C
	Nickel-alloys:	65 – 80 °C
	Depending on the base materials the ideal operating parameters have to be determined in preliminary tests.	

Maintenance

Depending on the application **riag Act 698** can be prepared in different concentrations. Acid and **riag Act 698 Surfactant** should be replenished proportional. Corrections should be done according to the additions of acid and experience.

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.

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.
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Analysis (Analytical method)

Sample preparation:

The sample must be taken from a well-mixed point and allowed to cool down to 25 °C.

Reagents:	Sodium hydroxide solution 1 mol/L Methyl orange solution 0.1 % in water	
Procedure:	5 mL	bath are transferred via pipette into a
	250 mL	beaker, add
	100 mL	DI water, add
	5 drops	methyl orange solution
		Titrate with sodium hydroxide solution 1 mol/L from red to yellow
Calculation:	Hydrochloric acid 32 % (mL/L) = consumption of mL NaOH x 19.66	
	Sulfuric acid 96 % (mL/L) = consumption of mL NaOH x 5.55	