



Product Information Alfideox 101

Alfideox 101

is a high-yielding, acid and fluoride-containing etching and deoxidation agent for aluminium and its alloys; under certain circumstances, it is also suitable for galvanised parts. The pretreated surfaces offer an excellent adhesion base for the following corrosion protection procedures.

Alfideox 101 can be used by immersion and in spraying plants. When Alfisid 14 (in spraying plants) or Alfisid 16/3 (by immersion) is added, the product can be used as etching and degreasing agent for the cleaning and activation of surfaces in one single process step.

Alfideox 101 has very good deoxidising properties. Therefore, it is especially suitable for clarifying problematical aluminium alloys. Due to the special formulation, separate fluoride additions are in most cases no longer necessary.

Characteristics	Initial quantity	spraying procedure: 5 – 20 g/l Alfideox 101 immersion procedure: 5 – 20 g/l Alfideox 101 if used as a etching and degreasing agent: addition of 1 – 3 g/l Alfisid 14 or 5 - 10 g/l Alfisid 16/3
	Density	Alfideox 101: approx. 1.27 g/ml Alfisid 14: approx. 1.0 g/ml Alfisid 16/3: approx. 1.0 g/ml
	Duration of treatment	2 – 5 minutes
	Temperature	use as etching agent: 15 – 30°C use as etching and degreasing agent: 50 – 60°C (at low contamination cleaning above 40°C)
	Aluminium content	While the Al - content increases the activity of the bath decreases more and more. The maximum Al-content is determined by our technical field service when the plant is put into operation.
	Pretreatment of galvanized surfaces	Please always observe enclosed customer information!
	Quality control	see paragraph Maintaining concentration

The way the product is strongly influenced by the material and the composition of the surface. In individual cases the optimal operating parameters may vary from the given standard parameters.

Safety precautions	Please observe the usual safety precautions for handling chemical substances. Classifications according to the statutory regulations for transport, storage and handling of the product and other product-specific instructions are included in the safety data sheet. Bath solutions, rinse water and concentrates must be treated according to the applicable regulations before entering the sewage system.
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Procedure	<p>The material may be deoxidised or activated directly in the etching solution provided that the surfaces are free of oil and grease. If not, prior cleaning is required.</p> <p>If the product is used as an etching and degreasing agent, the parts to be treated are also introduced directly into the Alfideox 101 and Alfisid bath solution. Degreasing and deoxidation take place in one single step. In order to prevent long treatment times, prior cleaning might be necessary if the parts are too greasy. Then the parts are rinsed and further treated. After an optimal etching treatment, the parts are free of residues. Treatment data and suitability for each individual purpose of application must be determined by suitable preliminary tests.</p>
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Tank material	Acid- and fluoride-resistant stainless steel or plastic are suitable. The tanks should be heatable for etching and degreasing agents. For the degreasing of very oily parts (in particular by immersion procedure), a device for the surface cleaning of the bath is recommended.
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Maintaining concentration	<p>Values which have been proven to function well should be maintained at a constant concentration through analytical monitoring. However, it is not possible to determine the degreasing effect of the etching and degreasing agent through the analysis. The degreasing effect is checked by rinsing the parts after approx. 75 % of the scheduled duration of treatment. Should the parts no longer be completely wetted after rinsing, the concentration of Alfisid must be increased or a new preparation must be made. The suitable ratio of Alfideox 101 and Alfisid depends on the degree of impurification of the parts to be treated. The quantity of Alfisid to be added is 1/5 - 1/10 of the Alfideox 101 quantity to be added.</p> <p>Due to impurities, it might occur that the effectiveness of the product is reduced. Therefore it is recommended to check the pickled parts in certain intervals. If there are residues and if the aluminium contents are higher, the Alfideox 101 proportion must be increased or a new preparation must be made. Should, however, reactivity be reduced despite an increase in the Alfideox 101 concentration, the bath can be further activated by adding Accelerator 96.</p> <p>Ideally, the effectiveness of the bath is determined by measuring the metal removal. For this purpose, a test panel (approx. 200 cm² surface) is weighed before and after the etching treatment and the weight loss is measured using an analytical balance.</p> <p>If the product is used for the pretreatment of galvanised surfaces the limit value for zinc must be observed (see customer information).</p>
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**Maintaining concentration
(continued)**

Determination of concentration: A 25 ml bath sample is pipetted using a volumetric pipette into a 300 ml Erlenmeyer flask, diluted with approx. 100 ml dist. water and then 4 - 6 drops of phenolphthalein solution are added. Now 10 ml potassium fluoride solution 33% are added using a measuring cylinder, and after thorough swirling titration is performed using 1 N sodium hydroxide solution from a 50 ml burette with Schellbach strip until the colour changes to pink.

consumed ml = A calculation: $A \times 4.5 = \text{g/l Alfideox 101}$

Aluminium content: A 25 ml bath sample is pipetted using a volumetric pipette into a 300 ml Erlenmeyer flask, diluted with approx. 100 ml dist. water and then 4 - 6 drops of phenolphthalein solution are added. After thorough swirling, titration is performed using 1 N sodium hydroxide solution from a 50 ml burette with Schellbach strip until the colour first changes to red.

consumed ml = B calculation: $(B - A) \times 0.9 = \text{g/l aluminium}$

**Alufinish laboratory
chemicals**

Sodium hydroxide solution 1 N (item no. 5001)

Potassium fluoride solution, 33% (item no. 5000)

Phenolphthalein solution (item no. 5013)

We will be glad to give you advice in this area and to send you relevant informations.

Modified (2017-02-28) (TS). With this version all prior versions are in valid. The information is provided according to the best of our knowledge and conscience at the time of printing and it reflects our experience in the laboratory and in practice. These are standard values which are however, not binding and must be adjusted to specific re-

quirements. Since the use of our products is not subject to our influence we can only accept liability for the standard of flawless quality at the time of delivery. We can recognise consequential damages only if this has been agreed upon in written form before use of the products and if the guaranteed property was explicitly mentioned.