Umicore Cleaner 6032

Operating Instructions

Edition: 24 January 2011

- **Alkaline cleaner**
- **Cyanide-free delivery component: Umicore Cleaner 6032 Salt Mixture**
- **Operation without or with cyanide**
- **For non-ferrous heavy metals, ferrous materials and zinc die castings**
- **Long lifetime**
- **Very good fine cleaning**

Bath Characteristics

Umicore Cleaner 6032 is an alkaline, cyanide-free electrolytic cleaner for non-ferrous heavy metals, zinc die castings and steel, preferably for cathodic operation. In the case of steel it can be used anodically, too.

It has good emulsifying properties and a long lifetime.

Umicore Cleaner 6032 can be operated without cyanide or optionally with cyanide as well.

It is not only used as a fine cleaner but also for removing rust-preventing oils and drawing compounds if other than the materials listed above are used.

Depending on the field of operation, non-foaming or foaming wetting agents can be used.

If the surfaces are more heavily soiled, they should be pre-degreased in a soak cleaner or an ultrasonic degreasing bath (e. g. Umicore Soak Cleaner 6002).

Bath type:	(Cyanide-free) alkaline cleaner
Content of Umicore Cleaner 6032 Salt Mixture:	60 g/l
Temperature:	55 °C
Current density:	12 A/dm²

Form of Supply

Bath makeup:	a)	Umicore Cleaner 6032 Salt Mixture (cyanide-free) Storage stability: unlimited 60 g to make up 1 l of bath
Optional:	b)	Potassium Cyanide* Storage stability: unlimited 10 g to make up 1 l of bath
Wetting agent for product agitation	c)	Umicore Wetting Agent 12# Storage stability: min. 2 years 1.0 ml to make up 1 l of bath
Wetting agent for continuous lines (minimal foaming)	d)	Umicore Wetting Agent 35 Storage stability: min. 2 years 0.25 ml to make up 1 l of bath
Bath replenishment:	e)	Umicore Cleaner 6032 Salt Mixture (cyanide-free) Storage stability: unlimited
Optional:	f)	Potassium Cyanide* Storage stability: unlimited
Wetting agent for product agitation	g)	Umicore Wetting Agent 12# Storage stability: min. 2 years
Wetting agent for continuous lines (minimal foaming)	h)	Umicore Wetting Agent 35 Storage stability: min. 2 years

* *Not supplied*

\# *Not recommended for continuous lines due to foam formation*

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Bath Makeup

Preparations:	All parts coming into contact with the bath must be alkali-proof and temperature-resistant. As material for screw connections we recommend stainless steel of the type 1.4301 (V2A). Prior to first use all parts coming into contact with the bath such as bath tanks, heating elements, cells, etc., have to be leached in 2 - 3 % sodium hydroxide solution.
Makeup sequence:	For bath makeup, deionized water should be used. Fill deionized water (room temperature, approx. 70 % of the final volume) into the bath tank. Stir in and dissolve the required amount of Umicore Cleaner 6032 Salt Mixture. The electrolyte may warm up. For improving the cleaning efficiency, 10 g/l of Potassium Cyanide may be optionally stirred in and dissolved. Then add 1.0 ml/l of Umicore Wetting Agent 12 or 0.25 ml/l of Umicore Wetting Agent 35. (Umicore Wetting Agent 12 should be used for barrel and rack applications. For continuous lines, we recommend Umicore Wetting Agent 35.) Fill up to operating volume with deionized water. After reaching operating temperature, the electrolyte is ready for use.
Caution!	Umicore Cleaner 6032 is highly corrosive. The personnel must take appropriate precautionary measures such as wearing safety goggles, protective clothing, etc. When making up the bath and generally when working with Umicore Cleaner 6032 Salt Mixture and Potassium Cyanide, mouth and nose protection has to be additionally worn.

Operating Conditions

	Optimum	Permissible range
Content of Umicore Cleaner 6032 Salt Mixture:	60 g/l	(50 – 100 g/l)
Optional: Content of free Potassium Cyanide:	10 g/l	(5 – 15 g/l)
Content of Umicore Wetting Agent 12 (for rack and barrel applications)	1.0 ml/l	(0.5 – 2.0 ml/l)
Or		
Content of Umicore Wetting Agent 35 (for continuous lines, minimal foaming)	0.25 ml/l	(0.1 – 0.5 ml/l)
Operating temperature:	55 °C	(40 – 60 °C)
Current density:	12 A/dm²	(5 – 15 A/dm²)
Time of exposure:	1 minute	(0.5 – 3 min)

Bath Monitoring and Correction

The content of Umicore Cleaner 6032 Salt Mixture can be analytically monitored.
The method is available on request.

The degreasing effect can be determined in a simple way. Degrease a metal strip (brass) in the usual way in a sample of Umicore Cleaner 6032, rinse, acid dip, and rinse again. The water film must not break even after a waiting period of 20 sec.

If the bath is highly contaminated, a new makeup should always be preferred to a replenishment.

Equipment

Bath tanks:	Plastic tank of alkali-proof and temperature-resistant (70 °C) material or tanks lined with alkali-proof and temperature-resistant plastic.
Heating:	The heating elements must be alkali-proof as well. We recommend steel or Teflon.

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Anodes:	As anode material only stainless steel of the type 1.4301 (V2A) should be used. The anodes can be either flat or net material.
Exhaust system:	Required

Note

Our information relating to the storage stability refers to storage in closed original storage containers under the conditions stated on the label.

Precautionary Measures/Safety Hints

For information on safety. please see the corresponding Material Safety Data Sheets! The valid accident prevention regulations and safety information must be observed.

Reference to

Analytical control:	Method available on request

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