Ardrox® 6376

IMMERSION MULTI METAL ALKALINE CLEANER

1 Description

Ardrox® 6376 is a liquid multi-metal cleaner for tank immersion application. A blend of alkaline salts and wetting agents, it is inhibited to safely remove oils, greases, and other production soils from aluminum, copper, magnesium and titanium. Ardrox® 6376 can also be used to clean ferrous metals and is free-rinsing. Ardrox® 6376 is free of APEO and phosphate. The product does not contain EDTA, NTA or their salts.

Approvals

✓ Airbus UK	ABP 8-1290
✓ ASTM	F-945 (conformance)
✓ CFMI	CFM56
✓ GE	70-80-04
✓ Pratt & Whitney	70-12-00
✓ Rolls Royce	CSS204 & OMat 1/24
✓ SAE	ARP 1755B (conformance)
✓ SAFRAN	Pr-1500
✓ SNECMA	DMR 13-300 & DMR 70-700
✓ V2500	01-072

Ask your Chemetall representative for a complete list of approvals

2 Chemicals required

Ardrox® 6376
Ardrox® 6376 AA

3 Physical and chemical properties

Property	Typical Value 6376	Unit	Test Method
Appearance	Clear, straw-colored liquid	-	-
Density (concentrate)	1.04 @ 20°C 8.70 @ 68°F	g/ml lbs/gal	-
pH	Approx. 12	-	-
Flash point	None	-	-
Miscibility in water	Fully miscible	-	-

These are typical values only and do not constitute a specification.

Property	Typical Value 6376AA	Unit	Test Method
Appearance		-	-
Density (concentrate)	1.43 @ 20°C 11.96 @ 68°F	g/ml lbs/gal	-
pH	Approx. 14	-	-
Flash point	None	-	-
Miscibility in water	Fully miscible		-

4 Application

Ardrox® 6376 can be used in immersion tanks and ultrasonic bath.
Ardrox® 6376 is mixed with water at a concentration range of 10 to 30 % v/v in water, and then heated from 60°C (140°F) to 80° (180°F). In a typical cleaning operation, parts are immersed for minimum 5 minutes, usually 15 to 30 min and rinsed in overflowing water for 30 to 60 seconds. Agitation enhances and speeds up cleaning.

Note: Some production operations may require other operating instructions depending on soiling, installation and material surface. The Chemetall representative will recommend the best way to use this product base upon production requirements.

Run cleaning solution as per the instructions of the engine manufacturer standard procedure.

5 Effects on materials

When Ardrox® 6376 is used in the prescribed manner, no significant corrosion will occur on the majority of metals including steel, aluminum, copper and titanium.

Stainless steel or mild steel is suitable for tank construction.

6 Shelf life

The shelf life is 3 years from date of manufacture.

7 Storage

Store in a cool place, with protection from freezing conditions.

8 Waste release

Any release shall respect all the applicable national and local regulation.

9 Safety guidance

Before operating the process described it is important that this complete document, together with any relevant Safety Data sheets, be read and understood.

10 General Information

Chemetall supplies a wide range of chemical products and associated equipment for cleaning, descaling, paint and carbon removal, metal working and protection and non-destructive testing. Sales Executives are available to advice on specific problems and application.

Method of control

Free alkalinity

1. Restore the volume of the tank to its initial level, if necessary by adding water. Thoroughly mix and take a sample.
2. After allowing to cool to ambient, pipette a 5.0 ml sample of Ardrox® 6376 into an Erlenmeyer Flask.
3. Add 25 ml of deionized water.
4. Add 5 drops Phenolphthalein.
5. Titrate with 0.1N HCL or 0.1N H_2SO_4 until the color changes from pink to colorless.
6. Record the ml's of testing solution as 'FA'.
7. **Specified range for FA: 2.0 – 6.0**
8. Add 12.5 liters of Ardrox 6376® and 0.7 liters of Ardrox® 6376AA for 1000 liters of tank solution to bring the solution strength up 1 titration point.

Total alkalinity

1. After allowing to cool to ambient, pipette a 5.0 ml sample of Ardrox® 6376 into an Erlenmeyer Flask.
2. Add 25 ml of deionized water.
3. Add 5 drops Bromophenol Blue.
4. Titrate with 0.1N HCL or 0.1N H_2SO_4 until the color changes from blue to yellow.
5. Record the ml's of testing solution as 'TA'.
6. Calculate the concentration of Ardrox® 6376 as follows: *TA × 3.65 = % b.v. Ardrox® 6376*
7. **Specified range for TA: 3.0 – 8.0**
8. Add 36,5 liters of Ardrox® 6376 for 1000 liters of tank solution to bring the solution strength up 1 titration point.
9. Limit the maximum concentration by partial dumping of the bath and restore the volume of the tank to its initial level by adding water.

Total alkalinity [TA]	Concentration [%]
3.0	11.0
4.0	14.6
5.0	18.3
6.0	21.9
7.0	25.6
8.0	29.2

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