



Color and treatment specification for Transformer Tank Aluminum structures

Painting of Aluminium

General: Aluminium does not generally need a protective coating, as all aluminium reacts with oxygen to form an oxide layer which provides the necessary protection. However, aluminium structures which are exposed to aggressive corrosion from washing solutions, braking dust, etc., do require surface protection.

Decorative painting can be used to blend a structure into its surroundings or to coordinate it with existing equipment and installations.

The lifetime of an aluminium structure can be substantially extended by appropriate finishing.

The paint must exhibit good bonding strength with minimum porosity. It should also be lightfast and elastic while being hard enough to withstand mechanical loading.

Efficient protection demands a series of measures to prepare the aluminium surface.

Post-welding operations


Pos.	1	Pressure test
	2	Leak test
	3	Cleaning and degreasing
	4	Rinsing and drying
	5	Pickling and acidification
	6	Primer
	7	Top coat

1/ 2. Before cleaning and painting, the structure should be pressure-tested acc. to HSTN 612 010, item 2, and tested for leaks acc. to HSTN 612 010, item 1.

3. - Cleaning and degreasing

Cleaning and degreasing depends on the nature of the contamination and is of decisive importance for the bonding strength of the paint.

Rough dirt should be removed mechanically with a Perlon or wire brush.

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Avoid sandblasting for structural parts subject to high stresses because it can lead to deformation of the material and adversely affect its mechanical strength.

Organic solvent are preferred for cleaning and degreasing.

Health warning: Indoors, solvent must only be handled in well ventilated rooms.
Absolutely no smoking.
Observe the toxicity class according to manufacturer's specification.

Cleaning agent: N°7684 ADR 3.3b of the
Silfa AG
Lack and Farbenfabrik
CH-4852 Rothrist

4.- Rinsing and drying

After cleaning and degreasing, rinse the structure carefully with running water. Be sure to remove all cleaning fluid residues from angles, joints, pores, etc. This is the only way to prevent corrosion at these points.

After rinsing, rub the structure dry with clean absorbent rags. The use of a hot air jet is recommended to eliminate all traces of moisture from angles and joints.


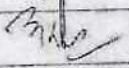
5.- Pickling and acidification

Alkali or acidic mordant should be used for pickling. A highly recommended product for this purpose is "Aluperi" made by
Pag-Chemie, CH-8957 Spreitenbach, Switzerland.
Aluperi should be diluted with water in a 1:10 mixture according to the degree of contamination.

Stubborn dirt requires several applications of Aluperi. Apply the product from bottom to top with a spray gun or brush. Leave it to act for about 10 minutes, then clean with a brush or sponge and finally rinse with plenty of water at maximum pressure as described under Point 4 above.

Caution: Wear goggles, toxicity class2

The primer should be applied as soon as possible after drying to avoid modification of the chemically treated surface by the atmosphere.

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7- Top coat

When the priming coat is completely dry, the 2-component top coat can be applied. Stir the paint well before use. Check the viscosity in a flow cup (e.g. acc. to DIN 53211).

Pretreatment	:	Priming coat
Application	:	External only, acc. to drawing HSTN 422 179
Coats	:	2 Top coats
Total coat thickness	:	100 μm
Type of paint	:	2-Component lacquer, polyurethane resin
Consumption	:	160 g/m ²
Drying time	:	Fast to handling in approx. 4 hours
Coat Thickness	:	30 μm (per coat)
Supplier	:	Walter Mader AG, Ch-8956 Killwangen, Switzerland
Commercial product name	:	Nuvovem ACR-571.7
Toxicity class	:	See supplier specifications
Shade	:	See order
Finish	:	See order
Grain size	:	>25 μm
Thinner	:	Art. No. 990 000-152
Handling	:	See supplier specifications

Other paints with similar specification are also acceptable.

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CORPORATE PURCHASING SPECIFICATION

AA 567 41

Rev. No. 01

PREFACE SHEET

PAINT REMOVER, SOLVENT TYPE - NONFLAMMABLE

FOR INTERNAL USE ONLY
REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS

Comparable Standards:

1. INDIAN : IS 430 - 1972

Suggested /Probable Suppliers and Grades

Refer plant Vendors List

User Plant References:

→ 1. JHANSI : IS 430
2. BHOPAL : IS 430

Revisions :


CI 32.11.70 of MOM of MRC-CPO

APPROVED :

INTERPLANT MATERIAL
RATIONALISATION COMMITTEE-MRC (CPO)

Rev. No. 01	Amd.No.	Reaffirmed	Prepared	Issued	Dt. of 1st Issue
Dt: 15.02.2004	Dt :	Year :	JHANSI	Corp. R&D	MAY, 1990

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5.4 Consistency:
10 P to 20 P at 25°C by a rotating viscometer.

5.5 Efficiency (CI 3.6 of IS:430):
When applied to a thoroughly dry, old paint film and allowed to stand for 5 minutes, the paint film shall be easily removable with a wooden or non-ferrous scrapper. In this respect, the paint remover, when tested at the same time and in the same manner, shall not be inferior to either of the mixtures specified in IS: 430.

5.6 Non-flammability (CI 3.7 of IS:430):
Shall not support combustion when tested with a burning match stick applied for 5 secs., to a piece of linen cloth dipped in material and drained for 5 minutes.

6.0 KEEPER PROPERTY:
When stored under cover in a dry place under normal storage conditions, the material shall retain the properties prescribed in this specification for a period of not less than 24 months after the date of manufacture, which shall be subsequent to the date of placing the order.

7.0 TEST CERTIFICATE:
Three copies of the test certificates shall be supplied unless otherwise stated in the order.
In addition, the supplier make sure to send one copy of test certificate along with despatch documents to facilitate quick clearance of the material.
The test certificates shall bear the following information.
BHEL Order No:
AA 567 41, Rev No. 01: Paint remover, solvent type, non-flammable
Manufacturer's/Supplier's Name & trade mark, if any
Identification/Consignment No.
Batch / Lot No
Results of clause 5.0.

8.0 PACKING AND MARKING:
The material shall be suitably packed in clean dry, well closed and leak proof containers protected from light. If the containers are closed with corks, the latter shall be protected with metal foil.
Each container shall be marked with the following information.
BHEL Order No:
AA 567 41: Paint remover, solvent type, non-flammable
Manufacturer's/Supplier's Name & trade mark, if any
Batch / Lot No
Date of manufacture and expiry
Quantity supplied
Safety precautions/Marking " Longer contact with bare hands shall be avoided"
Each container may also be marked with the BIS certification mark.

9.0 REFERRED STANDARDS (Latest Publications Including Amendments):
1. IS:430