

HW 0999001

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BASED ON BHEL EXPERIENCE

INSTRUCTIONS FOR REMOVAL OF ANTIRUST COATING, DEVARNISHING
AND DERUSTING OF STAMPINGS/ VENTILATING STAMPINGS ASSLY.

1.0 SCOPE

THIS INSTRUCTION COVERS PROCEDURE FOR REMOVAL OF ANTIRUST COATING, DEVARNISHING AND DERUSTING OF STAMPINGS/ VENTILATING STAMPINGS ASSLY and disposal of spent baths. (b)

- 1.1 REMOVAL OF ANTIRUST COATING BEFORE SPOT WELDING / PROJECTION WELDING.
- 1.2 DEVARNISHING OF STAMPINGS/ VENT.STAMPINGS ASSLY.
- 1.3 DERUSTING OF RUSTED STAMPINGS /SPACERS /VENT.STAMP INGS ASSLY.

2.0 MATERIAL :

FOLLOWING MATERIALS ARE USED :-

(MAT. CODE) (MAT. SPEC.)

AA5425781012

AA54201

HW 5420092018

IS 296

A45410003004

AAS4103

FDXWE4108020

IS 6818

AA5565723019

IS 250

AA5565713013

AA55613

3.0 TOOLS AND EQUIPMENTS

FOR THE PURPOSE OF PROCESS THE FOLLOWING TOOLS AND EQUIP-
MENTS ARE USED :

④ FOUR

- 3.1 ONE TANKS FOR CAUSTIC SOLUTION FITTED WITH HEATING ARRANGEMENT TO KEEP SOLUTION AT 25-90 DEGREE CENTIGRADE.
- 3.2 ONE PVC/FRP STORAGE TANK FOR ACID TREATMENT SOLUTION.
- 3.3 ONE PVC/FRP STORAGE TANK FOR PHOSPHORIC ACID BATH.
- 3.4 ONE PVC/FRP STORAGE TANK FOR CHROMATES BATH.
- 3.5 2 PVC/FRP @ storage tanks for washing stampings after treatment with HCL and Phosphoric Acid.
- 3.6 WIRE BRUSH DUST CLEANING BRUSH 350mm code MCXW 099/0018
- 3.7 Protective clothings - PVC COAT - ISXW 00200123
- 3.8 HAND GLOVES FOR SAFETY FROM CHEMICALS MCXW 00200050
- 3.9 GUM BOOTS ISXW 00200042

सं० रस० रम्य०	आर नारायण	RECEIVED 24-8-98	3-4 GUM BOOTS	ISXW 00200042
सं० जी० बजी०	रस० पी० गुप्ता	SAMPLE 24-8-98	NAME	SIGN & DATE
सं० रस० रम्य०	नं० भार० पादना	प्राप्त 23-7-98	DRAWN	
सं० रस० रम्य०	राधे श्याम राय	शुभ 18-7-98	WORKED	दर्ज सिंह 18-7-98
सी० पी० खल०	रस० सी० गुप्ता	(उत्तर) 21-7-98	REPORTED	महेश्वर लाल मिश्र नेच-डॉक्टर 18-7-98
रस० जी० बजी०	अज्ञात सिंह	कठोर सिंह	SUPERVISED	मुनील कुमार गुला 18-7-98
टी० जी० बजी०	डी० एन० गोयल	एन० गोयल	APPROVED	कृष्णा चन्द्र मोदी 6.18
मोर्टर्स इंजी०	एस० डी० यादव	24/8/98		18-7-98
AGREED DEPTT.	NAME	SIGN & DATE		
REVISION 01 REAFFIRMED 21.6.07			PREPARED EMT	ISSUED EMT DATE 25-8-98

SIGN & DATE

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18/08/98
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4.0 COMPOSITION OF BATHS :

4.1 CAUSTIC BATH :

MIX 40 PARTS BY WEIGHT CAUSTIC SODA AND 20 PARTS BY WEIGHT SODIUM CARBONATE IN 100 PARTS OF WATER. KEEP & MAINTAIN SOLUTION TEMPERATURE AT 85-90 DEG.C.

4.2 ACID BATH :

MIX 10 PARTS OF HYDROCHLORIC ACID WITH 90 PARTS OF WATER TO GET 10 % HCL BATH.

4.3 PHOSPHATING BATH :

MIX 5 PARTS OF PHOSPHORIC ACID WITH 95 PARTS OF WATER BY VOLUME TO GET 5 % ACID BATH.

4.4 CHROMATE BATH :

MIX 2 KG. OF POTASSIUM DICHROMATE WITH 98 LITERS WATER TO GET 2 % BATH.

(i) NOTE: LIMIT OF STRENGTH OF VARIOUS BATHS $\pm 10\%$ IS ALLOWED DURING ACTUAL OPERATION.

(ii) For rust cleaning a separate HCL bath shall be used.

5.0 PROCEDURE :

(A) FOR REMOVAL OF ANTIRUST COATING BEFORE SPOT WELDING / PROJECTION WELDING (1.1) AND DEVARNISHING OF STAMPINGS/ VENT. STAMPINGS ASSLY. (1.2) OPERATIONS FROM SL. NO. 5.1 TO 5.5 SHALL BE CARRIED OUT AS DETAILED BELOW.

(B) FOR DERUSTING OF RUSTED STAMPINGS / SPACERS / VENT. STAMPINGS ASSLY. (1.3) OPERATIONS FROM SL. NO. 5.2 TO 5.5 SHALL BE CARRIED OUT AS DETAILED BELOW.

5.1 KEEP THE STAMPINGS/ VENTILATING STAMPINGS ASSLY/ SPACERS IN CAUSTIC BATH FOR 4-6 HOURS AND CLEAN THOROUGHLY WITH RUNNING WATER USING WIRE BRUSH. *Before cleaning with running water components shall be washed in a water tank to minimise consumption of water.*

5.2 STAMPINGS/ VENTILATING STAMPINGS ASSLY/ SPACERS ARE KEPT IN HCL BATH FOR 30 - 60 MINUTES AND WASHED THOROUGHLY WITH RUNNING WATER TO REMOVE TRACES OF ACID FROM SURFACE. THEY SHOULD BE FREE FROM COATED FILM/ RUST. IF NOT, REPEAT THE PROCESS FOR FURTHER 2 TO 3 HOURS.

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- 5.3 FURTHER THE STAMPINGS/ VENTILATING STAMPINGS ASSLY/ SPACERS ARE GIVEN PHOSPHATING TREATMENT IN PHOSPHATING BATH FOR 15 TO 30 MINUTES. *After the treatment the stampings are to be cleaned in a water tank and subsequently with running water.*
- 5.4 THEN THE STAMPINGS/ VENTILATING STAMPINGS ASSLY/ SPACERS ARE GIVEN CHROMATE TREATMENT IN CHROMATE BATH FOR 10 MINUTES. *10*
- 5.5 FINALLY, STAMPINGS/ VENTILATING STAMPINGS ASSLY/ SPACERS SHOULD BE DRIED IN AIR.

NOTE:

- 1.0 THE DRY STAMPINGS/ VENTILATING STAMPINGS ASSLY/ SPACERS MUST BE USED FOR REVARNISHING/ *PAINTING* OR OTHER PURPOSE WITHIN 24 HOURS.
- 2.0 IN CASE THE STAMPINGS/ VENTILATING STAMPINGS ASSLY/ SPACERS ARE NOT USED WITHIN STIPULATED TIME AND GET RUSTED, THE ABOVE PROCEDURE SHOULD BE REPEATED TO REMOVE THE SAME.
- 3.0 CLEANED STAMPINGS SHOULD BE HANDLED WITH HAND GLOVES.
- 6.0 INSPECTION :

SELECT TWO SAMPLES FROM EACH PALLET AT RANDOM, INSPECT VISUALLY. THERE SHOULD NOT BE ANY TRACES OF ANY COATING OR RUST. DIP THE SAMPLES IN WATER. THE SURFACE SHOULD SHOW CLEAR FILM OF WATER WITH NO BREAKS OF OIL, GREASE AND RUST MARKS.

7.0 SAFETY AND OTHER PRECAUTIONS :

- 7.1 THE STORAGE TANK SHOULD BE USED CAREFULLY SO AS TO PREVENT MECHANICAL DAMAGE.
- 7.2 OPERATOR MUST USE HAND GLOVES AND SAFETY GOGGLES WHILE WORKING. *Protective clothings, Gum boots*
- 7.3 ALL TANKS SHALL BE MARKED WITH PAINTS FOR THEIR CONTENT (SOLUTION).
- 7.4 OPERATOR MUST HANDLE ACID VERY CAREFULLY AND FOLLOW INSTRUCTIONS ISSUED BY SAFETY DEPARTMENT.
- 7.5 ALWAYS ADD ACID IN WATER & NEVER VICE-VERSA.

NOTE:- CROSS REFERED STANDARDS

AA 54201 IS 250
AA 54103 IS 296
IS 6818

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PLANT STANDARD

HEEP-HARDWAR

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8. DISPOSAL OF SPENT BATHS OF CHEMICALS.

8.1 Potassium Dichromate Solution.

Hexagonal form of chromium (Cr+6) is hazardous, hence potassium dichromate bath is to be treated with sodium bi-sulphate (NaHSO_3) to convert it to trivalent chromium (Cr+3) before disposal. Three parts of sodium bi-sulphate shall be mixed with one part of potassium dichromate and solution shall be stirred well and kept for two hours. Before disposal of the bath about 500cc solution shall be sent to PCRI for analysis of Cr+6 and if it is found 'NIL', then solution in the tank shall be disposed off through ETP.

8.2 From ETP, at least once in a month about 5 Ltrs solution and one Kg. solid waste shall be sent by shop to PCRI for detail analysis of hazardous components, found if any.

8.3 PH value of ETP tank is to be checked every day by shop and records to be maintained. Then, if required, caustic soda is to be added in the ETP tank to maintain its pH value between 5.5 to 9.0.

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20/9/2000

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20/9/00