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SPECIFICATION
of
NYLON ITEMS (Plates, Rollers, Pulleys etc.)
FOR 140T GOTTWALD/JAMALPUR CRANE
(old and new design)

SPECIFICATION NO: JMP/140T/GOTT/SPEC/02
Revised Edition: OCT'2019

CRANE ORGANISATION
EASTERN RAILWAY, LOCOMOTIVE WORKS
JAMALPUR - 811214

FOREWORD


This Jamalpur Specification has been approved by Chief Works Manager, Eastern Railway/Jamalpur.

This is the revised edition of this specification.

The purpose of issuing this specification is to circulate the standardized list, make, brand, PL number, inspection parameters etc. for help in procurement to the Users of Gottwald/Jamalpur Crane over Indian Railways.

Utmost care has been taken to ensure the correctness of information. However the errors and omissions may be pointed out to enable us to issue necessary amendments.

This specification contains 9 pages including the cover page, ANN-1 (3 pages), ANN-2 & ANN-3 (1 page) and ANN-4 (1 page).


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1. GENERAL

a) Definition: Two types of Gottwald/Jamalpur 140T cranes are available on IR.

- i. Old design (also called 1986 design or with 'A' frame) crane
- ii. New design (also called 1997 design or without 'A' frame) crane

b) Scope: This specification is for "Nylon items (Plates, rollers, Pulleys etc.)" used in Old and New Design 140T Gottwald/Jamalpur DHBD Crane.

2. NYLON ITEMS USED IN THE CRANE

Following types of nylon items have been used in the old and new design of Gottwald/Jamalpur 140T DHBD crane:

a) **Plates, Spacers, Bushes, Rollers (ANN-1):**

These items are used at various places as wear plates, rollers and spacers etc.

b) **Pulleys & Pulley with bearing (ANN-2):**

The nylon pulleys are used in hoisting, derricking and recovery winch system of the crane.

Some of the pulleys of the old design crane have been standardized to the new design crane as follows:

- i. New design crane main hoist and main hoist guide pulley has been standardized for Old design crane Main hoist pulley also.
- ii. New design crane auxiliary hoist pulley has been standardized for Old design crane auxiliary hoist and auxiliary hoist guide pulley also.

Note:

If the nylon pulleys are required with bearings and retainer rings in assembled condition it should be purchased as per assembly drawings, given in ANN-3.

c) **Raw materials (ANN-4):**

For maintenance, the plates/ spacers/ rollers can be stocked in form of raw materials (plates and bars), which can be used by cutting/machining it to the required size as per drawing.

3. DRAWINGS

The drawings applicable are given in the list in Ann-1 to 3. All the original Gottwald Drawings have been revised. Crane users may collect these drawings from Jamalpur as and when required. All procurement should be made as per revised drawings.

4. MATERIAL

The nylon material has been standardized as "Cast Nylon with MOS2 /NYLATRON GSM with properties as per Jamalpur Sketch no. JMP/CR-148A/02". Crane users should collect a copy of this from Jamalpur.

For bearing and retainer ring specification refer **Jamalpur Specification No: JMP/140T/GOTT/SPEC/08.**

5. PART LIST NUMBER

The materials of 140T Gottwald/Jamalpur crane have various identification numbers viz. GPI NO., MDC-ID, Structure Code, Gottwald Structure etc. For the meaning of these terms refer to "*Glossary – 140T Gottwald/Jamalpur Crane*" issued by Jamalpur in November'2003.

Indian Railways follows the system of PL Number. For the materials of 140T Gottwald/Jamalpur crane, PL Number has been allotted by Jamalpur. The allotted PL Number has been approved by Controller of Stores/Eastern Railway and Chief Mechanical Engineer/ Eastern Railway.

All the Railways are requested to follow these PL Numbers in all communications about materials at any level. All other material identification numbers should be used for academic purposes only.

Note: While communicating with M/s Gottwald the MDC-ID, Gottwald Structure may be used in addition to the PL Number.

6. CRANE MAINTENANCE SPARE PART CATALOGUE

The location of the nylon items fitted in the crane can be found in the "**Crane Maintenance Spare Part Catalogue**", in which only PL Number and brief Description has been included. After finding the location, its details can be found in this Specification.

7. STOCKING POLICY

One or two pulleys and the bearings should always be kept with the crane users as spares. For the plates, rollers etc. it will be economical to stock the raw materials.

8. PROCUREMENT OF NYLON ITEMS

- PL Number, Description, Drawing number and Material** from ANN-1 to ANN-4 should be included in the requisition.
- The procurement should be made from the OEM or their dealer/representative.
- The proof of purchase from OEM and Manufacturers Test and Guarantee Certificate should be asked at the time of inspection and along with the supply.
- The procurement should be made only from the Jamalpur approved vendor.
- For the bearing and retainer ring refer **Jamalpur Specification No: JMP/140T/GOTT/SPEC/08.**

9. INSPECTION

- The dimension should be checked as per drawing.
- The material testing should be done in any reputed testing agency having all the testing facilities necessary for testing the parameters as per **Jamalpur Sketch No. JMP/CR-148A/02.**
- If the pulleys and bearings are purchased in set, the interference between the pulley and the bearing should be checked before assembly. The authenticity of the bearing and retainer ring should be checked as per **Jamalpur Specification No: JMP/140T/GOTT/SPEC/08.**

10. VENDORS

Refer to the "**Jamalpur Vendor Directory**" for approved list of vendors.

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Nylon Items (plates, rollers etc.) used in 140T Gottwald Crane (old and new design)

ANN - 1

OLD DESIGN			NEW DESIGN								
SI no	GPI NO.	qty/ cr	DESCRIPTION	Drawing	Drg. Alt.	Material	MDC-ID	unit	Structure code	qty/ cr	PL Number
P01	1403002	24	Gliding plate 10x50x100	JMP/CR-179/03	-	see note	-	No.	1.1.2.15.2	24	08920011
P02	1201009	24	Gliding plate 10X50X100	3WDH 140CR-6.2.7655.0315-3	1	see note	82724340	No.	1.1.3.19	24	08920035
P03	-	-	Sliding plate 10X50X100	3WDH 140CR-6.2.7655.0602-3	1	see note	82854640	No.	1.1.3.47	8	08920059
P04	4002025	2	Gliding plate 10X60X120	1WDH 140CR-3.2.7655.0331-4	1	see note	-	No.	-	-	08920072
P05	-	-	Sliding pad 12X90X165	3WDH 140CR-5.2.7655.0604-3	1	see note	82875540	No.	1.3.15.3.20	4	08920096
P06	-	-	Slicing plate 15X60X510	3WDH 140CR-4.2.7655.0499-3	1	see note	82744940	No.	1.2.11.28.1	6	08920114
P07	4006003	2	Gliding plate 15X160X250	1WDH 140CR-5.2.7655.0325-3	1	see note	-	No.	-	-	08920138
P08	4007005	2	Gliding plate 15X60X1420	1WDH 140CR-5.2.7655.0320-4	1	see note	-	No.	-	-	08920151
P09	4007008	4	Gliding plate 15X60X650	1WDH 140CR-5.2.7655.0323-4	1	see note	-	No.	-	-	08920175
P10	8004006	4	Gliding plate 20X170X290	1WDH 140CR-5.2.7655.0317-3	1	see note	-	No.	-	-	08920199
P11	8004007	2	Gliding plate 20X100X290	1WDH 140CR-5.2.7655.0318-3	1	see note	-	No.	-	-	08920217
P12	-	-	Sliding plate 20X115.4X390	3WDH 140CR-5.2.7655.0599-3	1	see note	82757240	No.	1.3.2.9	4	08920230
P13	1406001	4	Gliding plate 20X120X450	1WDH 140CR-7.2.7655.0247-3	1	see note	-	No.	-	-	08920254
P14	-	-	Plate 20X120X450	3WDH 140CR-7.2.7655.0596-4	1	see note	82673140	No.	1.1.2.6.2	4	08920278
P14A			Sliding Plate 20X90X150	3WDH 140CR-8.0617 0600 3 of 3	1			No.		2	
P14B			Nylon Plate 20X160X564	3WDH 140CR-8.0617 0600 2 of 3	1			No.		2	
P15	-	-	Sliding plate 27X100X110	3WDH 140CR-5.2.7655.0600-3	1	see note	82757140	No.	1.3.2.8	4	08920291
P16	8012006	2	Spacer D= 250/121X10	1WDH 140CR-5.2.7003.3938-4	1	see note	-	No.	-	-	08920321
P17	8012010, 8011005	2/2	Spacer D= 220/121X10	1WDH 140CR-5.2.7003.3921-4	1	see note	-	No.	-	-	08920345
P18	8005006, 8010005	4/2	Spacer D= 250/161X10	1WDH 140CR-5.2.7003.3924-4	1	see note	-	No.	-	-	08920369
P19	8011004	1	Spacer D= 220/121X20	1WDH 140CR-5.2.7003.3919-4	1	see note	-	No.	-	-	08920382
P20	8010004	2	Spacer D= 250/161X24	1WDH 140CR-5.2.7003.3972-4	1	see note	-	No.	-	-	08920400
P21	-	-	Spacer Ring D= 250/161X30	3WDH 140CR-5.2.7003.4659-4	1	see note	82682440	No.	1.3.3.3	1	08920424
P22	8808003	2	Spacer D = 220/121X60	3WDH 140CR-5.2.7003.3977-4	1	see note	55645840	No.	1.9.2.3	2	08920448
P23	-	-	Thrust washer D = 200/121X10	3WDH 140CR-5.2.7001.1646-4	1	see note	82669040	No.	1.3.5.3, 1.3.6.5	1/1	08920461

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Nylon Items (plates, rollers etc.) used in 140T Gottwald Crane (old and new design)

ANN - 1

OLD DESIGN			NEW DESIGN								
SI no	GPI NO.	qty/ cr	DESCRIPTION	Drawing	Drg. Alt.	Material	MDC-ID	unit	Structure code	qty/ cr	PL Number
P24	-	-	Thrust Washer D = 250/161 X10	3WDH 140CR-5.2.7001.1645-4	1	see note	82669940	No.	1.3.4.6, 1.3.6.4	1/1	08920485
P25	1706008	8	Washer D= 60/30X10	1WDH 140CR-7.2.7650.0525-4	1	see note	-	No.	-	-	08920503
P26	4201004	2	Plain washer D= 250/161X40	1WDH 140CR-5.2.7003.4054-4	1	see note	-	No.	-	-	08920527
P27	-	-	Roller D =170/62X18	3WDH 140CR-3.2.7250.0862-4	1	see note	54097440	No.	1.2.2.3.3	2	08920540
P28	-	-	Roller D= 70/31X42	3WDH 140CR-5.2.7250.0887-3	1	see note	82676240	No.	1.3.7.3	2	08920564
P29	-	-	Roller D =70/31X80	3WDH 140CR-5.2.7250.0888-3	1	see note	82676140	No.	1.3.7.2	10	08920588
P30	-	-	Roller D = 170/62X80	3WDH 140CR-3.2.7250.0834-4	1	see note	52599640	No.	1.2.13.4, 1.2.2.3.2	20/ 12	08920606
P31	4005004, 4006002, 4202011	10/ 15/ 12	Roller D = 170/62X85	1WDH 140CR-5.2.7250.0756-4	1	see note	76745340	No.	-	-	08920631
P31A			Guide Roller D = 150/60X400	1WDH 140CR-3.2.7250.0755-3	1			No.			
P32	-		Slide Bar 10X80X690	3WDH 140CR-3.2.7655.0606-2	-	see note	82890440	No.	1.2.2.10.3	2	08920655
P33			Slide Bar 15X100X680	3WDH 140CR-5.2.7655.0598-3	1	see note	82731640	No.	1.3.12.1	10	08920679
P34	5004014, 5305008, 1706007	12/ 6/ 8	Lining D= 38/30X20	3WDH 140CR-3.2.8205.0276-3	1	see note	82743740	No.	1.2.23.5, 1.2.24.5, 1.2.25.5, 1.2.26.5	4/ 4/ 8/ 4	08920692
P35	8003004	2	Bush D= 42/25 X 55	3WDH 140CR-5.2.8205.0275-3	1	see note	82725640	No.	1.3.8.3	2	08920710
P36	5306007	1	Bush 70X82X100	JMP/CR-158/03		see note	76719940	No.	-	-	08920734
P37	4201003	2	Distance Ring D= 250/161X60	1WDH 140CR-5.2.7003.3969-4	1	see note	-	No.	-	-	08920771
P38	-	-	Bracket 20X80X120	3WDH 140CR-5.2.7562.2831-3	1	see note	82676340	No.	1.3.7.4	1	08920795
P39	1705015, 1703015	6	Plastic Disc D= 50/25X3	121535-F-14-4	1	see note	-	No.	-	-	08920813
P40	8809003	2	WASHER D= 250/161 X 14	1WDH 140CR-5.2.7003.3926-4	1	see note	-	No.	-	-	08920837
P41	-	-	Anti Wear Edging	3WDH 140CR-3.2.7251.0320-3	1	see note	82791840	No.	1.2.10.7.2	1	08920850

Note: Material for all the above items : PA6G with MOS2/Nylatron GSM with property as per JMP/CR-148A/02

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Nylon Pulley used in 140T Gottwald Crane (old and new design)

ANN - 2

SN	Description	Drawing	Material	MDC-ID	Qty/ cr	Unit	PL Number
PL01	Main Hoist Guide pulley for old crane - 440/520-D176-R14	1WDH 140CR-5.2.7707.0889-3 Alt-2	see note 1	78528040	1	no.	08921064
PL02	Main Hoist & Main Hoist Guide pulley for New crane and Main hoist pulley for old crane - 560/640-D216-R14.5	3WDH 140CR-5.2.7707.1186-3 Alt-3	see note 1	82665140	36 old, 45 new	no.	08921088
PL03	Aux Hoist pulley for New crane and Aux Hoist & Aux guide pulley for old crane - 450/520-D176-R12.5	3WDH 140CR-5.2.7707.1185-3 Alt-3	see note 1	82665640	5 old, 4 new	no.	08921106
PL04	Aux Hoist Guide pulley for new crane - 560/640-D176-R12.5	3WDH 140CR-5.2.7707-1195-3 Alt-3	see note 1	82666240	1	no.	08921131
PL05	Guide pulley for winch rope - A-70-106 R9.5-35H7-48	3WDH 140CR-3.2.7707.0807-3 Alt-2	see note 1	78514140	5 old, 2 new	no.	08921155

Nylon Pulley with bearing and retainer ring used in 140T Gottwald Crane (old and new design)

ANN - 3

SN	Description	Drawing	Material	MDC-ID	Qty/ cr	Unit	PL Number
PB01	Pulley with bearing and retainer rings for Main Hoist Guide of old crane	1WDH 140CR-5.2.7707.0890-3 Alt-3	see note 1 and 2	78528040	1	set	08923061
PB02	Pulley with bearing and retainer rings for Main Hoist & Main Hoist Guide of New crane and Main hoist of old crane	3WDH 140CR-5.2.7707.1181-3 Alt-3	see note 1 and 2	82665140	36 old, 45 new	set	08923085
PB03	Pulley with bearing and retainer rings for Aux Hoist of New crane and Aux Hoist & Aux guide of old crane	3WDH 140CR-5.2.7707.1182-3 Alt-3	see note 1 and 2	82665640	5 old, 4 new	set	08923103
PB04	Pulley with bearing and retainer rings for Aux Hoist Guide of new crane	3WDH 140CR-5.2.7707-1194-3 Alt-3	see note 1 and 2	82666240	1	set	08923139

Note:

1. Material for pulley : PA6G with MOS2/Nylatron GSM with property as per JMP/CR-148A/02.
2. For bearing and retainer ring specification refer Jamalpur Specification No: JMP/140T/GOTT/SPEC/08.

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140T GOTTWALD/JAMALPUR CRANE - SPECIFICATION AND PART LIST BOOK

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Nylon Raw material required for Nylon Plates/Rollers/Spacers etc. used in 140T Gottwald Crane (old and new design)

ANN - 4

SN	Description	Material	Unit	Size	PL Number
RAW01	Nylon Plate 3mm	see note	sqm	1m X 1m	08922019
RAW02	Nylon Plate 5mm	see note	sqm	1m X 1m	08922032
RAW03	Nylon Plate 8mm	see note	sqm	1m X 1m	08922056
RAW04	Nylon Plate 10mm	see note	sqm	1m X 1m	08922081
RAW05	Nylon Plate 12mm	see note	sqm	1m X 1m	08922111
RAW06	Nylon Plate 15mm	see note	sqm	1m X 1m	08922135
RAW07	Nylon Plate 20mm	see note	sqm	1m X 1m	08922159
RAW08	Nylon Plate 27mm	see note	sqm	1m X 1m	08922172
RAW09	Nylon Tube 20/10	see note	m	1 to 2 m	08922196
RAW10	Nylon Tube 30/20	see note	m	1 to 2 m	08922214
RAW11	Nylon Tube 42/25	see note	m	1 to 2 m	08922238
RAW12	Nylon Tube 54/30	see note	m	1 to 2 m	08922251
RAW13	Nylon Tube 70/31	see note	m	1 to 2 m	08922275
RAW14	Nylon Tube 82/70	see note	m	1 to 2 m	08922299
RAW15	Nylon Tube 170/62	see note	m	1 to 2 m	08922366
RAW16	Nylon Tube 220/121	see note	m	1 to 2 m	08922391
RAW17	Nylon Tube 250/161	see note	m	1 to 2 m	08922421

Note: Material for all the above items : PA6G with MOS2/Nylatron GSM with property as per JMP/CR-148A/02

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