

**Sub: Qualifying Requirements for Vendor Enlistment for supply of CONVEYOR BELT (NN/ EP) above 1400 mm width and upto 1600 mm width**

A)	<b>MEG Details</b>		
	1.0	MEG NO.	55MEG-20
	2.0	MEG DESCRIPTION	CONVEYOR BELT (NN / EP) above 1400 mm width and Upto 1600 mm Width
	3.0	RESPONSIBILITY CENTRE	CC
B)	<p><b>Technical Criteria of QR:</b></p> <ol style="list-style-type: none"> <li>1. The applicant should be manufacturer of NN/EP Conveyor Belt of width 1600 mm or higher &amp; strength 800 kN/Mtr and above. The applicant should have supplied NN/EP conveyor belt of width 1600 mm or higher and strength 800 kN/Mtr and above, to actual user(s) or to main contractors of bulk material handling plant package having conveyors.</li> <li>2. The applicant should have Conveyor production unit with following facilities: <ol style="list-style-type: none"> <li>I. The production unit should have "a closed chamber internal mixer (Excluding kneaders) in operating condition" at his own manufacturing unit with the following features and functionalities: <ul style="list-style-type: none"> <li>• With an absolute volume of minimum 65 Litres.</li> <li>• With auto timer to indicate set time and elapsed time.</li> <li>• With auto temperature control with Cycle temperature chart showing set temperature and actual.</li> <li>• Input energy indicator for mixing</li> <li>• Ram pressure controller and indicator.</li> </ul> </li> <li>II. The Production unit should have three roll or above calendaring machine, to draw cover rubber in a single sheet.</li> <li>III. The production unit should have mechanised stretching facility for pre-tensioning of fabric plies during belt building.</li> <li>IV. The production unit should have a transparent standard practice of traceability of end product (belt) with raw materials.</li> <li>V. The production unit should have a standard practice of rheological tests.</li> <li>VI. The production unit should have a separate internal Quality Assurance (QA) wing with Rubber Technologist. The Rubber Technologist should meet the following criteria. <p style="margin-left: 40px;">BE/BTech/MTech/PhD, in "Rubber Technology / Polymer Science &amp; Rubber technology / Polymer Science &amp; technology / Polymer Science &amp; Engineering / Polymer Technology" with minimum 5 years of *experience in Conveyor belt industry / tyre Industry / Transmission belt industry.</p> <p style="text-align: center;">OR</p> <p style="margin-left: 40px;">M.Sc, in Polymer science / Polymer Chemistry / Chemistry with specialization in organic chemistry / Industrial polymer chemistry with minimum 10 years of *experience in Conveyor belt industry / tyre industry / Transmission belt industry. A certificate course in "Rubber Technology" from a reputed institute such as IIT (Kharagpur), IRMRA or Rubber Research Institute of India (RRII, Kottayam, Kerala) or any internationally certified courses in Rubber technology conducted by institutes like ARDL, LRCCP, UNESCO and Smithers is preferable.</p> <p style="text-align: center;">OR</p> </li> </ol> </li> </ol>		

	<p>B.Sc, in Chemistry with minimum 15 years of *experience in Conveyor belt industry / Tyre Industry / Transmission belt industry. A certificate course in “Rubber Technology” from a reputed institute such as IIT (Kharagpur), IRMRA or Rubber Research Institute of INDIA (RRII, Kottayam, Kerala) or any internationally certified courses in Rubber technology conducted by institutes like ARDL, LRCCP, UNESCO and Smithers is preferable.</p> <p>3. The production unit should have following testing/measurement facilities:</p> <ol style="list-style-type: none"> <li>a. Drum Friction Test Arrangement as per CAN/CSA</li> <li>b. Abrasion Resistance Test apparatus &amp; Standard Rubber Sample for cover rubber as per DIN:53516</li> <li>c. Arrangement for Flame Test as per ISO 340</li> <li>d. Arrangement for Electrical Surface Resistance Test as per CAN/CSA</li> <li>e. Trough ability Measuring arrangement with Measuring Instruments</li> <li>f. Humidity &amp; Temperature Controlled testing room / chamber for samples conditioning.</li> <li>g. Rheological Test Instrument</li> <li>h. Tensile Strength for belt &amp; cover as per IS: 1891</li> <li>i. Angular Tear Strength Test for cover as per ASTM D624 Type C</li> <li>j. Oven for ageing Test</li> </ol> <p>* As proof of Industry exposure, ‘Experience Certificate’, ‘Appointment Letter &amp; Relieving Letter’, ‘Salary Slips’, Form 16’, etc. can be the credentials. The experience certificate issued by any industry as mentioned above is acceptable.</p>
C)	<p><b>Other Documents to be uploaded:</b></p> <p>In addition to the documents upload required in support of Qualifying Requirements as stated at B) above, following documents are required to be uploaded by the Applicants applying for enlistment:-</p> <ol style="list-style-type: none"> <li>1. Three POs of the highest executed values(Refer to Note-2 of D) below) of similar works (Refer to Note-1 of D) below) during last five years from the date of application. Copy of Invoice / Completion certificate from the concerned buyer/s in support of successful execution of supply against the POs.</li> <li>2. Audited balance sheet including Profit &amp; Loss statement for the previous three completed financial years reckoned from the date of application. In case the audited results for the preceding financial year is not available, certification of financial statements from a practicing chartered accountant is to be uploaded. In case, applicant is not able to submit the certificate from practicing chartered accountant certifying its financial parameters, the audited results of the three consecutive financial years preceding the last financial years shall be considered for evaluating the financial parameters. Further, a certificate would be required from the CEO/CFO stating that the financial results are under audit as on date of application and certificate from the practicing chartered certifying the financial parameters are not available.</li> <li>3. Latest annual report OR NSIC / SSI / MSME registration certificate / BIS license / ISO certificate / Certificate of registration from the concerned excise department / any other statutory document as a proof of being manufacturer of the required material.</li> </ol>
D)	<p><b>Note-1</b></p> <p>Similar works means: Supply of CONVEYOR BELT (NN/EP) of minimum width 1600 mm within last 5 years from the date of application for enlistment.</p>
	<p><b>Note-2</b></p> <p>The executed value means Basic value of quantity of similar works executed/supplied against the reference PO(also applicable to partly executed POs as on date of application).Where PO value is composite(i.e. including Taxes etc.),the applicant to give item-wise break-up of Composite PO value mentioning Basic Value, Taxes etc.</p>

**Technical Specifications for Conveyor Belts- NN & EP**

**Technical Specifications for Conveyor Belts- for NN and EP type**

Sl	Description																																			
1	<p><b>Intent of Technical Specifications</b></p> <p>This technical specification is intended to cover the supply of spare belting of Coal Handling Plants at various stations of NTPC as per attached details and requirement (to be attached by the respective NTPC site. Sample format for belt sizing to be attached )</p> <p><b>Sample Format :</b></p> <table border="1"> <thead> <tr> <th>Description</th> <th>Example</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Belt Type</td> <td>NN</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Belt Size (width) (mm)</td> <td>1400</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Belt Strength / nos. of ply</td> <td>630/4</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Top Cover Thickness (mm)</td> <td>5</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Bottom cover thickness (mm)</td> <td>2</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Edge (Cut / Molded)</td> <td>Cut</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Description	Example				Belt Type	NN				Belt Size (width) (mm)	1400				Belt Strength / nos. of ply	630/4				Top Cover Thickness (mm)	5				Bottom cover thickness (mm)	2				Edge (Cut / Molded)	Cut			
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2	<p><b>Material to be handled</b></p> <p>Conveyor belts shall handle coal up to 250 mm cube size (occasionally 1-2 % 400 mm cube lumps). Coal may contain shale/stone up to about 20%. Total Moisture can be as high as 40%. HGI of coal shall be around 44-65. Coal may occasionally carry metal pieces also.</p> <p>Conveyor can be started in loaded condition at 110% of rated capacity</p>																																			
3	<p><b>Bulk density of coal</b></p> <p>For the purpose of volumetric calculations bulk density of coal is taken as 800 kg/m<sup>3</sup>. Belt speed is max. 3.4 m/sec. Pulleys are lagged with grooved rubber or ceramic tiles</p>																																			
4	<p><b>Environmental conditions</b></p> <p>Belt can be used either in conveyor galleries or in the open yard where it is subjected to heavy rains, sunlights, dust storms, hails etc. The belt shall be suitable for tropical environment with temperatures ranging from 0- 50 deg C. The belt can be used in track hoppers/ underground conveyor galleries where extreme humid conditions and pouring water is not uncommon.</p>																																			

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**Technical Specifications for Conveyor Belts- NN & EP**

5	<p>Impact idlers are used at the loading and transfer point so as to avoid direct loading impact, belt damage and excessive punishment to the carrier. However, in case of track hopper, steel carrying idlers at 600 mm spacing are used.</p> <p>Polyurathene as primary Belt scrappers along with separate pre cleaners_ are used for removing sticking coal/clay to be belting.</p> <p>Conveyor Belts earmarked for one project can be diverted to other stations also. Awarded quantity on a vendor can be either part or full in terms of length and type/size.</p> <p>The vendor shall provide all relevant details asked for in the technical specifications including the ones given in Data sheet</p>
6	<p><b>Codes and Standards</b></p> <p>The belt shall conform in all respects to the latest applicable Indian Standards or equivalent International Standards except where specifically modified or supplemented by this specification in the relevant paras below :</p> <p>The conveyor belt under this technical specification shall conform to :</p> <p>Fire Resistant Grade, Rubber conveyor belting, NN (Nylon 6) or EP (as specified) construction, Pre-stretched straight ply, skim coated, open end, cut edge, suitable for Type 3 heavy duty conditions conforming to the latest version of IS:1891 (Part V) 1993 and other relevant IS standards (latest versions) as detailed below All the standards applicable should be latest version, published 60 days prior to bid opening date :</p> <ul style="list-style-type: none"><li>(a) IS : 1891 (Part I)</li><li>(b) IS : 3400 (Part IV)</li><li>(c) IS : 4240</li><li>(d) ISO : 340</li><li>(e) IS:11592 :Code of practice for selection and design of Belt Conveyors.</li><li>(f) CAN / CSA - M422 M87 : Canadian standard association.</li><li>(g) Additional requirement as specified below.</li></ul>
7	<p>The belting shall be of synthetic fabric Nylon-Nylon (Nylon 6) OR EP (as specified) with rubber covers of adequate flexibility to give a troughing angle of 35 deg.</p>
<b>TECHNICAL SPECIFICATION :</b>	
8	<p>Finished belt properties</p> <ul style="list-style-type: none"><li>• Elongation at reference load (At 10% of FTTS)<ul style="list-style-type: none"><li>a) 2.5% Max. For NN Belt</li><li>b) 1.5% Max. For EP belt</li></ul></li></ul>

*Abhishek*

*Rajeev*

*S. S. S.*



**Technical Specifications for Conveyor Belts- NN & EP**

19	<p><b>MARKING ON BELT :</b></p> <p>The belt shall be marked as follows at the interval of 10 Mtrs. on the carrying surfaces:-</p> <ul style="list-style-type: none"><li>• Belt designation</li><li>• The specified type of fabric.</li><li>• A character identifying the rubber cover used.</li><li>• The last two figures of the year of manufacture.</li><li>• Letters of trademark identifying the manufacture.</li></ul>
<b>Note</b>	
20	<p><b>TEST REPORTS, INSPECTION, PACKING AND MARKING ON DRUM :</b></p> <p>This section details out the acceptance tests, testing facilities and rejection, test reports, inspection, packing and marking of drum.</p>
20.1	<p><b>ACCEPTANCE TEST :</b> As per Standard Quality Plan (SQP NO: 0000-999-QDM-S-073, REV 00 dtd 28/4/2014)</p>
20.2	<p><b>TESTING FACILITIES:</b></p> <p>The vendor shall supply at his own cost all labour and appliances for the tests. For all these tests the vendor must have testing facilities in his works. The vendor shall provide additional lengths of belt for conducting tests.</p> <p>The vendor shall have the facility to offer full length belt for visual examination of both sides of the belt with the counter facility of length measurement.</p>
20.3	<p><b>TEST REPORTS :</b></p> <p>Record of routine test reports shall be maintained by the manufacturer for owner's review / approval. Copies of acceptance test reports shall be furnished in at least Six (6) copies. One each shall be returned duly certified by the Owner, only after which the material will be accepted.</p>
20.4	<p><b>INSPECTION :</b></p> <p>No belting shall be dispatched from its point of manufacture before it has been satisfactorily inspected and tested, unless the inspection is waved off by the owner in writing. In the later case also the belting shall be dispatched only after satisfactory testing for all tests specified in the applicable relevant Indian / International Standards. The acceptance of any quantity of materials shall be no way relieve the Contractors of any of his responsibilities for meeting all requirements of the specifications, and shall not prevent subsequent rejection if such material are later found to be defective.</p>

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**Technical Specifications for Conveyor Belts- NN & EP**

20.5	<p><b>PACKING :</b></p> <p>The belting shall be supplied in lengths (if order qty of a particular qty is more than 200 mtr) of 200 m to 250 m + 2 % on non-returnable strong, wooden drums of adequate strength, constructed to protect the belting against all damages and displacement during transit, storage and subsequent handling in the field. The drums shall be of a standard design for the purpose. Other details of packing and transportation shall be as mutually agreed to between the owner and the supplier.</p> <p>OR</p> <p>Instead of Wooden Packing, Non returnable metal based packing with plastic layer and with plastic edge protection can be used. The roll to be wrapped with treated fabric with water proofing &amp; UV quality. The core should be metal core. Metal base to be used for any rolls above 6 MT net weight</p>
20.6	<p><b>MARKING ON DRUMS :</b></p> <p>Each drum shall have the following information stenciled on it in indelible ink along with other essential data as follows :</p> <ul style="list-style-type: none"><li>• Contract / Award number.</li><li>• Name and address of consignee.</li><li>• Manufacturer's name and address.</li><li>• Drum number.</li><li>• Size of drums.</li><li>• Length of belt in meters.</li><li>• Gross weight of drum with belt.</li><li>• Arrow marking for uncoiling</li></ul>

*Approved by*  
*Rayan*


*S. S. S.*

	ITEM (MATERIAL, CLASS, GRADE, RATING, RANGE, SIZE ETC.):	<b>STANDARD QUALITY PLAN</b>		QP NO.: 0000-999-QOM-S-073	REVIEWED BY:	 APPROVED BY: अजु नैकी Approved K K OJHA Dt..... M KASTHANA
	Conveyor Belt ( Fabric, FR Grade) Up to 2200mm belt width and without longitudinal joint	CONFORMING TO CODE: IS:1891 PART - 1		REV. NO: 01    DATE :27.04.2018	PAGE 1 OF 6	

Sl. No	Component & Operations	Characteristics	Class	Type of Check	Quantum of Check		Reference Document	Acceptance Norms	Format of Record	Agency			Remarks
					M	C/ N				M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.	11.	
<b>1.0</b>	<b>RAW MATERIAL</b>												
1.1	Raw rubber	a) Volatile matter b) Ash content c) Mooney viscosity d) Dirt content e) Plasticity Retention Index	Major	Physical Chemical Physical Physical- Chemical	Random one Sample per lot	-	IS:4588 &IS:3660/ Mfr standard	IS:4588 &IS:3660/ Mfr standard	Raw material Analysis sheet	V	-	-	
1.2	Zinc Oxide	a) Moisture Content b) Ignition test c) Purity d) Particle Size e) Bulk density f) Acid Insolubility	Major	Physical Chemical Physical Physical Chemical	Random one Sample per lot	-	IS:3399/ Mfr standard	IS:3399/ Mfr standard	Raw material Analysis sheet	V	-	-	
1.3	Stearic Acid	a) Ash content b) Melting Point c) Acid Value	Major	Chemical Physical Physical- Chemical	Random one Sample per lot	-	IS:1675/ Mfr standard	IS:1675/ Mfr standard	Raw material Analysis sheet	V	-	-	
1.4	Carbon Black	a) Moisture Content b) Ash Content c) Iodine Absorption No d) BDP Absorption No. e) pH	Major	Physical Chemical Physical- Chemical Physical- Chemical Physical- Chemical	Random one Sample per lot	-	IS:7497 & IS:7498/ Mfr standard		Raw material Analysis sheet	V	-	-	
1.5	White Filler	a) Moisture Content b) Ignition test c) Insolubility in HCl d) Particle size	Major	Physical Chemical Chemical Physical	Random one Sample per lot	-	IS: 1685/ Mfr standard	IS: 1685/ Mfr standard	Raw material Analysis sheet	V	-	-	



**LEGEND:** \* RECORDS, IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.  
 \*\* M: MANUFACTURER / SUB-SUPPLIER    C: MAIN SUPPLIER, N: NTPC    P: PERFORM    W: WITNESS AND    V: VERIFICATION. AS APPROPRIATE,  
 CHP: NTPC SHALL IDENTIFY IN COLUM "N" AS 'W'.



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	Conveyor Belt ( Fabric, FR Grade) Up to 2200mm belt width and without longitudinal joint	CONFORMING TO CODE: IS:1891 PART - 1		REV. NO: 01 DATE :27.04.2018	M KHALIQUZZAMA B C ROY M KASTHANA	अनुमोदित Approved K K OJHA

Sl. No	Component & Operations	Characteristics	Class	Type of Check	Quantum of Check		Reference Document	Acceptance Norms	Format of Record	Agency			Remark	
					M	C/N				M	C	N		
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.		11.	
1.6	Protective Agent	a) Moisture Content b) Ash content c) Softening Point / Melting Point	Major	Physical Chemical Physical	Random one Sample per lot	-	Mfr standard	Mfr standard	Raw material Analysis sheet		V	-	-	
1.7	Rubber chemicals/ Accelerators	a) Moisture Content b) Ash content c) Melting Point d) Solubility	Major	Physical Chemical Physical Physical	Random one Sample per lot	-	Mfr standard	Mfr standard	Raw material Analysis sheet		V	-	-	
1.8	Sulphur	a) Moisture Content b) Ash content c) Purity	Major	Physical Chemical Chemical	Random one Sample per lot	-	IS:8851/ Mfr standard	IS:8851 / Mfr standard	Raw material Analysis sheet		V	-	-	
1.9	Plasticizer	a) Relative density b) Aniline point c) Viscosity	Major	Physical Chemical Physical	Random one Sample per lot	-	Mfr standard	Mfr standard	Raw material Analysis sheet		V	-	-	
1.10	Textile Fabric	a) Thickness b) Width c) Weight (GSM)	Major	Physical	Random one sample per roll	Random one sample per roll	Mfr standard	Mfr standard	Textile Laboratory Testing Report	√	V	V	V	
1.11	Dipped Textile Fabric	a) Breaking Strength (warp & weft) b) Elongation at break (warp & weft) c) Elongation at ref. load (warp & weft)	Major	Physical	Random one sample per production batch	Random one sample per production batch	Mfr standard	Mfr standard	Textile Laboratory Testing Report	√	V	V	V	

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	Conveyor Belt ( Fabric, FR Grade) Up to 2200mm belt width and without longitudinal joint	CONFORMING TO CODE: IS:1891 PART - 1				REV. NO: 01 DATE :27.04.2018	M KHALIUZZAMA B C ROY M KASTHANA	

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					M	C/N					M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.		** 10.			11.
1.12	Rubber Compound	a) Rheometric Analysis b) Specific gravity c) Hardness d) Tensile strength e) Elongation at break f) Adhesion	Major	Physical	Random one sample per formulation batch	Random one sample per formulation batch	Mfr standard	Mfr standard	Lab report	√	P	V	V	
<b>2.0 IN-PROCESS INSPECTION</b>														
2.1	Rubber Coating of Fabrics	a) Ply thickness b) Ply Width c) Ply Length d) Fabric roll no. and type e) Compound code and batch no.	Major	Physical	Each Ply	Each Ply	Mfr Standard	Mfr Standard	Production Log Sheet/Internal record	√	P	V	V	
2.2	Rubber cover sheeting / calendaring	a) Thickness b) Width c) Length d) Compound code and batch no.	Major	Physical	Each Sheet	Each Sheet	Mfr Standard	Mfr Standard	Production Log Sheet/Internal record	√	P	V	V	
2.3	Belt Building	a) Thickness b) Width c) Length d) Cover and ply position	Major	Physical	Each belt	Each belt	Mfr Standard	Mfr Standard	Production Log Sheet/Internal record	√	P	V	V	


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1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.		11.	
2.4	Moulding (Curing)	a) Curing temperature b) Curing Time c) Hydraulic Pressure d) Cured belt-width , length and thickness	Major	Physical	Each belt	Each belt	Mfr Standard	Mfr Standard	Production Log Sheet/Internal record		P	V	V	
2.5	Dressing & sizing	a) Finish b) Edge (Mould / cut)	Major	Visual	100%	100%	Apprd drg/DS/NTPC Tech. Specs.		Production Log Sheet/Internal record		P	V	-	
2.6	Cured Belt Inspection	Mapping of surface defects-their type and repairs	Major	Visual	Each Belt	Each Belt	IS: 1891/ NTPC Specification	IS: 1891/ NTPC Specification	Production Log Sheet/Internal record	√	P	V	V	Refer Note - 01
3.0	<b>FINAL INSPECTION OF FINISHED BELT : Sample shall be taken randomly from anywhere of belt roll/length offered for inspection (Refer Note – 2)</b>													
3.1	Dimension and Visual	a) Visual Exam. for Surface Finish b) Mapping of surface defects-their type and repairs c) Length d) Edge (Mould/Cut) e) Width  f) Shore Hardness  g) Thickness of full belt h) No. of Plies  i) Top & Bottom Cover thickness	Critical	Physical	100%  100%  100% 100% Random locations in each roll Random spots in each roll Each Roll  Each Roll  Each Roll	Sample as per IS: 1891 – I	Apprd drg/DS/NTPC Tech. Specs.		IR	√	P	W	W	Refer Note-01, 02 & 05

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1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.		11.
3.2	Tensile Strength of Full Belt Thickness	a) Breaking strength (Warp & Weft) b) Elongation at Ref. Load (Warp) c) Elongation at Break (Warp)	Critical	Physical	Each Roll	Sample as per IS: 1891 - I	IS:1891 Part - I	NTPC Specn./Apprd data sheet	Laboratory Test report	√	P	W	W
3.3	Adhesion	a) Top cover to Ply b) Ply to Ply c) Ply to Bottom Cover	Critical	Physical	Each Roll	Sample as per IS: 1891 - I	IS:1891 Part - I	NTPC Specn./Apprd data sheet	Laboratory Test report	√	P	W	W
3.4	Troughability	Troughability	Critical	Physical	Each Roll	Sample as per IS: 1891 - I	IS:1891 Part - I	IS:1891 Part - I	Laboratory Test report	√	P	W	W
3.5	Cover Rubber Properties	a) Cover Tensile Strength (Before & After ageing)	Critical	Physical	Each Roll	Sample as per IS: 1891 - I	IS:1891-Part-I	NTPC Specn./Apprd data sheet	Laboratory Test report	√	P	W	W
		b) Elongation at Break (Before & After ageing)	Critical	Physical	Each Roll	Sample as per IS: 1891 - I	ASTM D 624 Type-C	NTPC Specn./Apprd data sheet					
		c) Angular tear Strength	Critical	Physical	Each Roll	Sample as per IS: 1891 - I	DIN 53516	NTPC Specn./Apprd data sheet					
3.6	Fire Resistivity Test	a) Drum Friction test	Critical	Physical	Each Roll	Sample as per IS: 1891 - I	CAN/CSA/M42 2- M87 TYPE "C"	CAN/CSA/M 422- M87 TYPE "C"	Laboratory Test report	√	P	W	W
		b) Flame Test	Critical	Physical	Each Roll	Sample as per IS: 1891 - I	ISO 340	ISO 340	Laboratory Test report	√	P	W	W
		c) Electrical surface Resistance test	Critical	Electric	Each Roll	Sample as per IS: 1891 - I	CAN/CSA/M42 2- M87 TYPE "C"	CAN/CSA/M 422- M87 TYPE "C"	Laboratory Test report	√	P	W	W

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 CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS 'W'.

	ITEM (MATERIAL, CLASS, GRADE, RATING, RANGE, SIZE ETC.):		<b>STANDARD QUALITY PLAN</b>				QP NO.: 0000-999-QOM-S-073		REVIEWED BY:		APPROVED BY:			
	Conveyor Belt ( Fabric, FR Grade) Up to 2200mm belt width and without longitudinal joint						CONFORMING TO CODE: IS:1891 PART - 1				REV. NO: 01 DATE :27.04.2018 PAGE 6 OF 6		M KHALIQUZZAMA B C ROY M KASTHANA	
Sl. No	Component & Operations	Characteristics	Class	Type of Check	Quantum of Check		Reference Document	Acceptance Norms	Format of Record		Agency			Remarks
					M	C/N					M	C	N	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.			11.
4.0	Identification & Marking	Belt Number, Manufacturer's Name, Logo, Belt Rating, Grade, Fabric Type, Month & Year of Manufacture etc. shall be embossed by the Manufacturer on every vulcanized length of belt or as per P.O. condition. Belts Nos. offered for inspection & Belt Nos. from which samples are drawn for testing shall be indicated in the CHP. Accepted Belt Nos. shall be identified with signature and date using permanent marker as well as NTPC hard punch in White Paint. The identification marks shall be preserved by the manufacturer												
5.0	Despatch	a) Packing and Marking	Major	Visual	Each roll	Each roll	Mfr Standard / NTPC Specn	Mfr Standard / NTPC Specn	Finished Product Department record		P	V	-	

**Note-01:** Defectogram shall be prepared by the belt manufacturer and shall be submitted for verification by NTPC representative / Inspection Engineer before start of Final Inspection. Following Repair norms shall be applicable -

- i). Patch repair : Localized rectification of surface blemishes/defect in cured belt by using rubber compound similar to the mother compound up to top carcass may be done followed by local vulcanization.
- ii) Buffing / dough: Entrapment of foreign matters may be buffed. Depth of buffing should not exceed the difference in thickness of the rubber (as measured in test sample for the purpose of acceptance of cover rubber thickness) and the specified minimum cover thickness. Where the indentation depth is more, the same may be filled with rubber compound followed by vulcanization locally. The repairs of size up to and including (25x25mm) (625sq mm) shall not be considered as patch repair.
- iii.a) Maximum number of repairs as per (i) as indicated above shall be limited to 5 per 100 sq. meters of belt length (rounded up to higher unit).
- iii.b) Total number of repairs as per (i) and (ii) indicated above shall not exceed more than 10 per 100 sq. meter of belt
- iii.c) In case of patch repair as indicated in (i) above, the maximum size / area of each repair shall be limited to 1/5 W x 1/5 W , with one dimension Max. 1/5W, where 'W' is width of the belt.

**Note-02:** Sample shall be taken randomly from anywhere of belt roll/length offered for Inspection. Belt to be supplied in two pieces and the lengths shall be indicated on the packing drum.

**Note-03:** Latest edition of all the standards mentioned in the quality plan is to be used.

**Note-04:** Two copies of MTC (Material Test Certificate) and IR (Inspection Report) to be submitted in hard form or soft form

**Note-05:** Visual Inspection (including random check of belt width, hardness and total belt thickness) on both sides shall be done on the complete belts from which sample shall be taken as per IS-1891, Part-I

**LEGEND:** \* RECORDS, IDENTIFIED WITH "TICK" ( ✓ ) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.

\*\* M: MANUFACTURER / SUB-SUPPLIER C: MAIN SUPPLIER, N: NTPC P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS 'W'.