TENDER DOCUMENT
TENDER NO.: DLI/C&E/WI-675/283

FOR

Tender for Supply of “Conveyor Belting (M-24 Grade)” for the project of “Augmentation of Fuel and Flux Crushing Facilities (Package No. 064) of Bhilai Steel Plant (SAIL)”

VOLUME – 2B

TECHNICAL SPECIFICATION
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1.0 DOCUMENTS/INFORMATION TO BE FURNISHED ALONGWITH OFFER

(i) Clear Scope of supply.

(ii) Exclusions, if any.

(iii) Price Schedule for supply as per the format enclosed.

(iv) Catalogues/Leaflets and O&M Manuals.

(v) Reference list of your Customers for the similar supply of items.

(vi) Quality Assurance Plan.

(vii) Un-priced Copy (Furnish un-priced copy of Price Schedule alongwith the Technical Bid).
2.0 SCOPE OF SUPPLY

The scope of the supply includes manufacture, testing and inspection at manufacturer’s works, packing, dispatch, transportation, delivery to site, receipt (Bhilai Steel Plant, SAIL/EPI) of ‘Conveyor Belting (M-24 Grade)’ as per specifications and scope defined in tender documents complete with all accessories, which are not mentioned specifically but are required for the efficient and trouble free operation of the equipment/system.

a) Following items are also included in bidder’s scope

(i) Conveyor Belting shall be as per the details given in the specifications.

(ii) Getting approval of data sheet related to the belting from BSP/MECON/EPI.
3.0 TECHNICAL SPECIFICATION OF "CONVEYOR BELTING (M-24 GRADE)"

Belting shall be designed for heavy duty condition and shall be suitable for 24 effective working hour’s operations per day and 365 working days per year. It shall be suitable for installation over conveyor system having 35° troughing angle and shall be suitable for operation at an ambient temperature of 50°C. It shall have sufficient resistant against exposure to open sunlight so that its qualities do not deteriorate while working in open sun. It also may have to work in rain and/or in conditions where relative humidity goes upto 100%. The fabric for belting shall be of Nylon/Nylon heavy duty type. The belting shall be pre-stretched, straight ply, skin coated with open ends. It shall have sufficient strength to give required tension at 10 safety factor and 80% tension utilisation. All belts shall be joined by vulcanized splicing.

The belt shall have sufficient lateral flexibility so that it suits the troughing angle requirements even when it is empty. The belt shall have sufficient longitudinal flexibility so that it can easily flex around different pulleys of the conveyor system. The belt shall have sufficient impact resistance to withstand impact at the loading points. The edge shall be of cut edge construction.

On the carrying surface, at interval of maximum 12 meters, the belting shall be marked as follows:

a) Manufacturer’s name and trade mark, if any.
b) Fabric designation as NN
c) Belt designation i.e. KN/m
d) Code of top and bottom cover i.e. M-24.
e) Last two digits of year of manufacturing.

Belt roll shall be packed in wooden drums. This packing should enable easy unreeling of the belting. On the body of the wooden drum the direction of belt and location of end of the belting should be indicated so that belting can be properly placed while unreeling.

The design, construction, testing and performance of the belting shall comply with all applicable codes and as per IS, IPSS and International Standards.

Before dispatch, the finished material shall be subject to inspection by the EPI/MECON. The inspection shall be carried out in the presence of EPI/MECON, in terms of up to date engineering practice and relevant IPSS, IS and International Standards in this respect, for which all facilities shall be provided by the Contractor at his cost. This shall inter-alia, include the following:

a) Full thickness belt test
   i) Breaking load, Kg/sq. cm for wrap and weft.
   ii) Elongation under reference load (%).
   iii) Elongation at break (%).
b) Rubber cover test (Top/Bottom)
   i) Tensile strength of cover, Kg/sq. cm
   ii) Elongation at break (%)
   iii) Adhesion between ply to ply and between covers and ply.
   iv) Abrasion loss of rubber cover
c) Physical dimension check
d) Flexibility Test
All relevant type test certificates shall have to be produced during inspection and along with supply for necessary verification and approval.

**Schedule of Conveyor Belting**

<table>
<thead>
<tr>
<th>#</th>
<th>Conveyor No.</th>
<th>Belt Width (mm)</th>
<th>Belt Specifications</th>
<th>Cover Thickness (mm)</th>
<th>Endless Length as per Mech. GA (m)</th>
<th>Splice Length (m)</th>
<th>Total Belt Length including splice length (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L114A</td>
<td>1000</td>
<td>800/4, NN, M-24</td>
<td>6/3</td>
<td>136.00</td>
<td>1.0 X 1</td>
<td>137.00</td>
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<tr>
<td>2</td>
<td>L111A</td>
<td>1000</td>
<td>630/4, NN, M-24</td>
<td>6/3</td>
<td>53.00</td>
<td>1.0 X 1</td>
<td>54.00</td>
</tr>
<tr>
<td>3</td>
<td>L118</td>
<td>1200</td>
<td>1000/4, NN, M-24</td>
<td>6/3</td>
<td>36.00</td>
<td>1.2 X 1</td>
<td>37.20</td>
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<tr>
<td>4</td>
<td>L106</td>
<td>1400</td>
<td>1250/4, NN, M-24</td>
<td>6/3</td>
<td>40.00</td>
<td>1.4 X 1</td>
<td>41.40</td>
</tr>
<tr>
<td>5</td>
<td>L115 (Mod)</td>
<td>1000</td>
<td>800/4, NN, M-24</td>
<td>6/3</td>
<td>25.00</td>
<td>1.0 X 1</td>
<td>26.00</td>
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<tr>
<td>6</td>
<td>L120 (Mod)</td>
<td>1200</td>
<td>1000/4, NN, M-24</td>
<td>6/3</td>
<td>22.41</td>
<td>1.2 X 1</td>
<td>23.62</td>
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<tr>
<td>7</td>
<td>L105 (Mod)</td>
<td>1200</td>
<td>1000/4, NN, M-24</td>
<td>6/3</td>
<td>18.00</td>
<td>1.2 X 1</td>
<td>19.20</td>
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<tr>
<td>8</td>
<td>L117 (Mod)</td>
<td>1000</td>
<td>630/4, NN, M-24</td>
<td>6/3</td>
<td>17.00</td>
<td>1.0 X 1</td>
<td>18.00</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>347.41</strong></td>
<td></td>
<td><strong>356.42</strong></td>
</tr>
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</table>

All conveyor belting specification should conforms to IS:1891 (Part-I) 1993 for M-24 Grade.