



**Specification No:** ENG-GEN-4000 (A)

**Specification Name:**

Technical Specification For Polycarbonate  
Meter Seal

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1	<b>SCOPE</b>	<p>The specification covers the design, manufacture, testing at manufacturers works, supply and delivery at destination stores of tamper evident poly-carbonate security seals (Anchor type) heat resistant for sealing of Meter body and terminal covers of energy meters, Meter Box, CT-PT Units etc. with non-corrosive, non-magnetic stainless steel sealing wire.</p> <p>It is not the intent to specify completely herein all the details of technical design and construction of material. However, the material shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in manner acceptable to the purchaser, who will interpret the meanings of drawings and specification and shall have the power to reject any work or material which, in his judgment is not in accordance therewith. The offered material shall be complete with all components necessary for their effective and trouble free operation. Such components shall be deemed to be within the scope of Bidder's supply irrespective of whether those are specifically brought out in this specification and/or the commercial order or not.</p>																																				
2	<b>APPLICABLE STANDARDS</b>	<p>The equipment covered by this specification shall conform to the requirements stated in latest editions &amp; amendments of relevant Indian/ IEC Standards and shall conform to the regulations of local statutory authorities.</p> <table border="1"> <tr> <td>a</td><td>IS 9000</td><td>Basic Environmental testing procedure for electrical and electronic items.</td></tr> <tr> <td>b</td><td>IS 15707 : 2006</td><td>Testing, EVALUATION, INSTALLATION AND MAINTENANCE OF ac ELECTRICITY METERS — CODE OF PRACTICE</td></tr> <tr> <td>c</td><td>ASTM F 997</td><td>Standard Specification for Polycarbonate Resin</td></tr> <tr> <td>d</td><td>ASTM D792-08</td><td>Specific Gravity</td></tr> <tr> <td>e</td><td>ASTM G154</td><td>Exposure to UV radiations</td></tr> <tr> <td>f</td><td>ASTM B 117 -09</td><td>Salt Spray Test</td></tr> <tr> <td>g</td><td>IS 15707 : 2006</td><td>Testing Evaluation installation and maintenance of AC Electricity Meters- Code of practice.</td></tr> <tr> <td>h</td><td>IEC 60068</td><td>Environmental testing.</td></tr> <tr> <td>i</td><td>CBIP–TR No.325</td><td>Specification for A.C. Static Electrical Energy Meters (latest amendment)</td></tr> <tr> <td>j</td><td>CEA Regulation : 2006</td><td>Installation and operation of meters Dtd: 17/03/2006 or latest amendment</td></tr> <tr> <td>k</td><td>Supply code</td><td>Odisha Electricity Regulatory Commission Distribution (Condition of Supply) Code, 2019</td></tr> <tr> <td></td><td></td><td></td></tr> </table>	a	IS 9000	Basic Environmental testing procedure for electrical and electronic items.	b	IS 15707 : 2006	Testing, EVALUATION, INSTALLATION AND MAINTENANCE OF ac ELECTRICITY METERS — CODE OF PRACTICE	c	ASTM F 997	Standard Specification for Polycarbonate Resin	d	ASTM D792-08	Specific Gravity	e	ASTM G154	Exposure to UV radiations	f	ASTM B 117 -09	Salt Spray Test	g	IS 15707 : 2006	Testing Evaluation installation and maintenance of AC Electricity Meters- Code of practice.	h	IEC 60068	Environmental testing.	i	CBIP–TR No.325	Specification for A.C. Static Electrical Energy Meters (latest amendment)	j	CEA Regulation : 2006	Installation and operation of meters Dtd: 17/03/2006 or latest amendment	k	Supply code	Odisha Electricity Regulatory Commission Distribution (Condition of Supply) Code, 2019			
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3	CLIMATE CONDITIONS  OF THE INSTALLATION	SL NO	<b><u>CLIMATIC CONDITIONS OF THE INSTALLATION</u></b>	The atmosphere across coastal divisions of TPNODL/TPCODL/TPWODL/TPSODL very saline, laden with salt, during dry months and subjected to fog in cold months.
		1	<b><u>Maximum Ambient Temperature</u></b>	<b><u>50°c</u></b>
		2	<b><u>Maximum daily average ambient temperature</u></b>	<b><u>40°c</u></b>
		3	<b><u>Minimum Ambient Temperature</u></b>	<b><u>2°c</u></b>
		4	<b><u>Maximum humidity</u></b>	<b><u>99.7%</u></b>
		5	<b><u>Minimum humidity</u></b>	<b><u>15%</u></b>
		6	<b><u>Average Annual Rainfall</u></b>	<b><u>1800MM</u></b>
		7	<b><u>Average wind speed prevailing in the area</u></b>	<b><u>200KMPH</u></b>
		8	<b><u>Average Thunderstorms prevailing in the area 70days per Annum</u></b>	<b><u>70days per annum</u></b>
		9	<b><u>Average Dust storms prevailing in the area</u></b>	<b><u>20 days per annum</u></b>
		10	<b><u>Average number of rainy days per annum</u></b>	<b><u>160</u></b>
		11	<b><u>Maximum Altitude above sea level</u></b>	<b><u>1200m</u></b>
		12	<b><u>Rainy months</u></b>	<b><u>June to October</u></b>
4	GENERAL TECHNICAL REQUIREMENTS			
		<b>S. No.</b>	<b>DESCRIPTION</b>	<b>REQUIREMENT</b>
		4. 1	Material of seal	Polycarbonate grade 143R or equivalent
		4.2	UV resistance properties	Should not get affected by UV rays



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		4.3	Boiling water, acid or chemicals resistance	Seal shall not be affect by boiling water, acid or chemicals
		4.4	Seal wire	Seal should have 6 inch long 26 gauges, twisted strand stainless steel wire non corrosive & non magnetic
		4.5	Temperature Withstand	147 deg. Cel.
		4.6	THICKNESS OF SEAL	Minimum 1mm thick
		4.7	Serial number printing & visibility	Serial number should be laser printed on male & female part & should be separately visible after closing of seal
		4.8	Company LOGO	TPWODL/TPNODL/TPCODL/TPSODL LOGO) to be embossed/ laser printed as specified.
		4.9	Embossing quality	Embossing should have superior quality with good smooth finish.
		4.10	Seal design	Seal should be constructed/moulded with one piece twisted sealed wire & polycarbonate male & female part such way that no extra seal wire is required.
		4.11	Surface finish	The surface should be free from any burr or casting voids etc.
		4.12	Colour shade	The colour shades of all seals of specific color should be same.
		4.13	Size of female part	approximately Height=17mm, Length = 14mm & Width= 7mm. Other patented design not impacting the overall requirement of sealing is also acceptable.

5	<b>GENERAL CONSTRUCTIO NS</b>	<p>5.0.1 The seal shall be capable to withstand temperature upto 147 deg. C without any damage / deformation.</p> <p>5.0.2 The seal shall be designed for a single use only and if tampered with the help of plier, knife or any other sharp instruments, the seal shall be damaged and due to its transparent property, the sign of internal tampering shall be easily detected. Also once opened, it cannot be re-used.</p> <p>5.0.3 The seal shall be made in such a way that, it can be easily locked with the help of finger and thumb pressing no tools shall be required to close the seal in the laboratory or at site.</p> <p>5.0.4 Both the parts shall be designed in such a way that they can not be separated and the attachment shall be flexible and shall not break. After inserting the seal wire through female part, the cap of the male part shall be fitted in the female part in such a way that it should not leave any space to avoid insertion of any sharp tools for opening of seal body of the female part in hot or cold condition.</p> <p>5.0.3 The seal shall have also the following features:-</p> <ol style="list-style-type: none"> <li>Tamper resistance and reliable.</li> <li>Environmentally safe as it does not contain any lead.</li> <li>Withstand long-term exposure to direct sunlight.</li> <li>Required no tools for installation.</li> <li>Transparent.</li> <li>Heat resistance.</li> </ol>
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5.1	<b>DESIGN</b>	<p>5.1.1 The seal shall be anchor (Push Fit) type tamper evident with double locking. Minimum two step locking shall be provided. Other sizes, design not impacting the overall requirement of sealing with patent is also acceptable.</p> <p>5.1.2 There shall not be any change in size, shape or design of the seal than the approved tender samples. If the seal is found different than the approved design / shape / size, the same shall be out rightly rejected.</p> <p>5.1.3 The dimension of the female part of the seals are approximately Height=17mm, Length = 14mm &amp; Width= 7mm. Slight variation in size &amp; shape is acceptable but no compromise in sealing &amp; locking arrangement. No weightage in price will be given for such variation in size &amp; shape.</p> <p>5.1.4 The double anchor should not be so soft that it can be easily pressed before sealing, so that after pressing the seal cannot be opened.</p> <p>5.1.5 The double anchor should be very hard such that it should not require plier to press fit. Should be easily press fit with hand/ thumb pressure.</p> <p>5.1.6 The wall thickness of seal should be minimum one mm (1mm).</p> <p>5.1.7 Seal shall be made of unbreakable, high grade, fire retardant reinforced Insulating material with FV0 Fire Retardant, self -extinguishing, UV stabilize, recyclable and Anti oxidation properties.</p> <p>5.1.8 The serial numbers should be alpha numeric of at least 7 (seven) digits Non repeat seven digits Sr. No. With Code No. shall be laser etched / embossed during moulding (it shall not be screen printed) in contrast color on one side of capsule body (female).</p> <p>5.1.9 The Sr. No. shall also be laser etched / embossed during moulding (it shall not be screen printed) in contrast color on top of the male part.</p> <p>5.1.10 The laser etched printing shall be through complete thickness of the polycarbonate.</p> <p>5.1.11 Hole for inserting sealing wire of diameter of 1mm only with + 0.1mmtolerance.</p>
5.2	<b>Color of Seal</b>	<p>5.2.1 The female portion of the polycarbonate seals shall be clear, transparent, and see through type preferably or of same colour as the male part, provided that the fixing mechanism is completely visible and any tampering can be clearly identified.</p> <p>5.2.2 Male part Anchor type body may be in colors of white transparent(W)/ Yellow (Y)/ Green(G)/ Red (R)/Violet(V)/Blue(B). The color of seal should not fade with UV radiations of sunlight.</p> <p>5.2.3 The color should be such that any two seals should not show any visual color shade difference.</p> <p>5.2.4 The required shade of color, marking shall be given/mentioned in the PO.</p>



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5.3	Marking/ Monogram	The seal shall have laser etched printing of monogram of TPWODL/TPNODL/TPCODL/TPSODL on front side and month and year embossed of manufacture in figure on the backside. The laser etched printing should be through complete thickness of polycarbonate.																		
5.4	Seal material	<p>The raw material used for polycarbonate plastic seals shall be M/s GE plastic, (Grade 143R or 943 AA), any other equivalent manufacturer having similar material properties as under:</p> <table> <tr> <th>Sr. No</th><th>Item</th><th>Polycarbonate</th></tr> <tr> <td>1</td><td>Melting Temperature</td><td>2800 C to 2950 C</td></tr> <tr> <td>2</td><td>USE</td><td>Engineering</td></tr> <tr> <td>3</td><td>Softness</td><td>Hard</td></tr> <tr> <td>4</td><td>Durability</td><td>Weather effect resistant</td></tr> <tr> <td>5</td><td>Transparency</td><td>Fully Transparent (long time transparency)</td></tr> </table>	Sr. No	Item	Polycarbonate	1	Melting Temperature	2800 C to 2950 C	2	USE	Engineering	3	Softness	Hard	4	Durability	Weather effect resistant	5	Transparency	Fully Transparent (long time transparency)
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5.5	Seal Wire	<p>The non-corrosive, non-magnetic stainless steel twisted wire (26 gauge) confirming to IS : 280 shall be used . The seal wire shall not have effect of magnet i.e. it should not attract to magnet. The length of the sealing wire should be minimum 6" twisted two strand pull resistant stainless steel wire fixed to the seal. The diameter of each individual stand should be of 0.46mm (26 gauge) to 0.5 mm. dia and overall diameter of the seal wire shall be 0.92 to 1.0 mm (+ 0.05). The No. of turns shall be minimum 16- 20 per inch. The seal wire should be inserted at the female and male part during the process of moulding itself and with a visible projected and continuously length of the wire. The wire shall be intact such that it cannot be pulled out after sealing.</p> <p>The seal wire insert hole should be just sufficient for passing the seal wire and hole of larger dia. is discouraged.</p>																		
5.6	Tolerance	<b>Any dimension Tolerance shall be max. 0.5mm or below.</b>																		
5.9	Special feature	<b>A secret code shall be given in each seal by bidder on whom the TPWODL/TPNODL/TPCODL/TPSODL places the order. The name of the bidder embossed/laser printed on the seals along with TPWODL/TPNODL/TPCODL/TPSODL logo or any other symbol given by the TPWODL/TPNODL/TPCODL/TPSODL shall be embossed/ laser printed. Before commencing mass manufacturing &amp; supply Six Nos. of sample seals of each color shall have to be approved from the purchaser.</b>																		
5.10	Patent	<p>Seals should be patented. Bidder shall submit copy of valid patent certificate along with patent drawing &amp; design or certificate of registration of design from the patent office, Government of India for verification along with the offer. This should comply to the latest CEA guidelines &amp; its Bidders responsibility to provide genuine documents complying to statutory guidelines.</p> <p>SEAL should be PATENTED (Provide patent no. &amp; patent drawing, design with copy of PATENT certificate/ Certificate of registration of design from the Patent office, Government of India/Design Patent License.</p>																		

**TPCODL**  
**TPWODL**

**TPNODL**  
**TPSODL**

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<b>6.0</b>	<b>NAME PLATE AND MARKING</b>	Seals shall have embossed marking clearly visible and effectively secured against removal. Following marking to be done on seals. <ul style="list-style-type: none"><li>i. Manufacturer's name on female part side below date &amp; month.</li><li>ii. Serial number – unique seven digit no (Seal serial number shall be laser printed on top of the male part &amp; bottom of the female part).</li><li>iii. TPWODL/TPNODL/TPCODL/TPSODL monogram with logo on high-rise moulding in 8mm dia. On side of female part iv. Month and Year of manufacture in MM/YY format on other side of the female part in high-rise moulding in 8mm dia.</li></ul>
<b>7.0</b>	<b>TESTS</b>	All routine, acceptance & type tests shall be carried out on the seals separately in accordance with the relevant IS/IEC. All routine/acceptance tests shall be witnessed by the purchaser/his authorized representative. All the components shall also be type tested as per the relevant standards. Following tests shall be necessarily conducted,
<b>7.1</b>	<b>TYPE TEST</b>	As per acceptance tests.



7.2	<b>ACCEPTANCE TEST</b>	<p>The seals shall be inspected / tested as a acceptance test at the manufacture's works before dispatch in presence of authorized representative of purchaser for the following tests:</p> <p>i) <b>Physical Dimensional Check-up</b> : The seals shall be subjected to visual check-up for verification of workmanship and other features as mentioned above including shape / design / dimensions as per approved drawing / Samples &amp; dimensions should be within min. tolerances mentioned in specs./drawings.</p> <p>ii) <b>Boiling Water Test:</b> The seal when immersed in the boiling water for two hours there shall not be any effect on the seal and it shall remain intact condition i.e. the seal should not become soft, but instead should turn out to trail and easily break thus showing easily the tampering signs if it eventually happens. Even, with the help of any sharp instrument, pulling with plier i.e. by applying mechanical force, the male portion shall not come out from the female part (body seal). In case, it comes out, the same shall damage the seal, so that it cannot be re-used.</p> <p>iii) <b>Pull Out Test:</b> After locking the seal, if the male part / insert is pulled with mechanical force with the help of plier or any other instrument, sharp instrument etc. at normal condition, the seal should not get unlocked without any damage and when such condition occurs, it should leave traces of tampering.</p> <p>iv) <b>Seal Wire</b> : In case, if someone tries to pull the seal wire and in any of the tests as mentioned above at (ii) &amp; (iii) in that case the male / female portion of the seal should be damaged and the same can be seen visually being a transparent one.</p> <p>v) <b>Chemical Test:</b> The seal be kept in the concentrated acid for minimum one hour. The same shall remain in tact condition and if try to unlock the seal, the same shall be damaged.</p> <p>vi) <b>Temperature withstand test:</b> The seal should be capable to withstand temperature up to 147 deg. C without damage/deformation.</p> <p>vii) <b>Effect of oil, chemical &amp; sunlight</b> : The seal shall be so designed made that there shall not be any effect of temperature, chemicals, oil and sunlight etc. on the performance of the seal.</p> <p>Other checks -</p> <ol style="list-style-type: none"> <li>1. Surface finish- Male &amp; female part – The surface should be free from any burr or casting voids etc.</li> <li>2. Embossing quality- embossing should have superior quality &amp; good finish.</li> <li>3. Colour shade- the colour shades of all seals of specific color should be same.</li> <li>4. Marking &amp; embossing - The LOGO embossing shall be as per TPWODL/TPNODL/TPCODL/TPSODL standard logo &amp; making as mentioned in specs. The steel seal wire shall be properly placed in insulating material.</li> </ol> <p>In short, if the seal is tested for any of the above tests, in no condition the male and female part shall be separated out without affecting / damaging the seal. In case, if they are separated, the seal shall have sufficient tamper evident. Also, if seal wire is pulled out from the seal in any of the above tests, it shall not come out from the seal without damaging seal.</p>
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<b>7.3</b>	<b>Sampling Plan</b>	For carrying out above acceptance tests at manufacturer's works shall be selected at the rate of 0.2% of the offered quantity with minimum 5 samples selected at random from the each lot offered as per IS4905. The seals used in testing shall be destroyed in the presence of TPWODL/TPNODL/TPCODL/TPSODL Inspecting Officer.
<b>8.0</b>	<b>TYPE TEST CERTIFICATE</b>	The bidder shall furnish the type test certificates of the meter for the tests as mentioned above as per the corresponding standards. All the tests shall be conducted at CPRI or ERDA or UL or accredited laboratory as per the relevant standards. Testing from any national approved laboratory or international acclaimed lab or equivalent will also suffice at the discretion of TPWODL/TPNODL/TPCODL/TPSODL. Type test should have been conducted in certified Test Laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports i.e. any test report not acceptable or any/all type tests (including additional type tests, if any) not carried out, same shall be carried out without any cost implication to TPWODL/TPNODL/TPCODL/TPSODL.
<b>9.0</b>	<b>PRE-DESPATCH INSPECTION</b>	<p>The successful bidder shall submit Ten samples of each color seal (non-returnable) mentioned in tender/ PO for further testing and compliance as per specifications and getting approval before mass manufacturing.</p> <p>Inspection may be made at any stage of manufacture at the discretion of the purchaser and if found unsatisfactory as to workmanship or material, the same is liable to rejection. Equipment shall be subject to inspection by a duly authorized representative of the Purchaser. Bidder shall grant free access to the places of manufacture to TPWODL/TPNODL/TPCODL/TPSODL's representatives at all times when the work is in progress. Inspection by the TPWODL/TPNODL/TPCODL/TPSODL or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by TPWODL/TPNODL/TPCODL/TPSODL.</p> <p>Following documents shall be sent along with material</p> <ol style="list-style-type: none"> <li>Test reports</li> <li>MDCC issued by TPWODL/TPNODL/TPCODL/TPSODL</li> <li>Invoice in duplicate</li> <li>Packing list</li> <li>Drawings &amp; catalogue</li> <li>Guarantee / Warrantee card</li> <li>Delivery Challan</li> <li>Other Documents (as applicable)</li> </ol> <p>Stage Inspection: If desired, TPWODL/TPNODL/TPCODL/TPSODL will arrange stage inspection for the material used for manufacturing of seal and also during the process of manufacturing. If desired, during the surprise checking TPWODL/TPNODL/TPCODL/TPSODL shall take sample of raw material and will check for the material properties. In case, the same is not found as per the specification, the entire lot under process shall be rejected.</p>
<b>10.0</b>	<b>INSPECTION AFTER RECEIPT AT STORE</b>	The material received at Purchaser's store shall be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection or approved GTP & drawings.

11.0	<b>GUARANTEE</b>	Bidder shall stand guarantee towards design, materials, workmanship & quality of process / manufacturing of items under this contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the purchaser up to a period of at least 24 months from the date of commissioning or 30 months from the date of last supplies made under the contract whichever is earlier, Bidder shall be liable to undertake to replace/rectify such defects at its own costs, within mutually agreed time frame, and to the entire satisfaction of the Company, failing which the purchaser will be at liberty to get it replaced/rectified at bidder's risks and costs and recover all such expenses plus the Company's own charges (@ 20% of expenses incurred), from the bidder or from the " Security cum Performance Deposit" as the case may be.
12.0	<b>PACKING</b>	The bidder shall be responsible for suitable packing of seals, colour wise. The bidder shall have to supply each 100 seals in chronological order i.e. arranging in serially, tied with the steel wire forming a loop and same shall be packed in polythene bag with labels furnishing serial no., colour etc. & further packed in cardboard boxes for safety in transit.
13.0	<b>TENDER SAMPLE</b>	Bidders are required to manufacture ten(10Nos.) sample seals of each colour/circle as per the TPWODL/TPNODL/TPCODL/TPSODL specification and submit (non-returnable) the sample along with bid for approval along with the bid documents. Samples testing will be done at purchaser's laboratory. If purchaser desires these sample seals may be tested at nationalized laboratory or any govt. approved laboratory. The testing charges for nationalized laboratory or any govt. approved laboratory will be borne by the bidder/supplier. Before sample testing, participant bidders will be intimated to depute their representative for witnessing. This sample testing procedure will be done before opening of price bid. <b>Without submission of required nos. of above sample seals along with the bid documents, the bid will not be considered for evaluation.</b> The sample seals should be securely packed in a separate packet & the bidder has to write their firm name, Tender Notice No, Tender Specification No, name of the material & Sl. No. of Seals along with colour for each Circle in that sample seals packet for reference.
14.0	<b>QUALITY CONTROL</b>	The bidder shall submit with the offer Quality assurance plan indicating the various stages of internal factory inspections, tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and after finishing final product. Quality should be ensured at the following stages: <ul style="list-style-type: none"> <li>• Inwards raw material</li> <li>• At Female part moulding along with seal wire</li> <li>• At male part moulding with seal wire</li> <li>• On finished product</li> <li>• Prior to packing</li> </ul> The TPWODL/TPNODL/TPCODL/TPSODL's engineer or its nominated representative shall have free access to the bidder's/manufacture's works to carry out inspections of QAP.
14.1	<b>IDENTIFICATION OF DUPLICATES</b>	Supplier shall ensure that process cannot be duplicated to prevent duplicate seals.  However, in case TPWODL/TPNODL/TPCODL/TPSODL finds any doubtful seal at site, manufacturer shall visit the site for certifying whether the seals are genuine or duplicate.  Manufacturer shall give a letter stating reason's for duplicate and technical report needs to be provided along with conclusions.
15.0	<b>MINIMUM TESTING FACILITIES</b>	Bidder shall have adequate in house testing facilities for carrying out all routine tests & acceptance tests as per relevant International / Indian standards/ TPWODL/TPNODL/TPCODL/TPSODL specification. The bidder shall have good/digital/calibrated instruments to check minute difference in dimensions & logo etc.

16.0	<b>MANUFACTURING ACTIVITIES</b>	The successful bidder will have to submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart shall be in line with the Quality assurance plan submitted with the offer. This bar chart will have to be submitted within 15 days from the release of the order.		
17.0	<b>SPARES, ACCESSORIES AND TOOLS</b>	NA		
18.0	<b>GUARANTEED TECHNICAL PARTICULARS</b>	SR NO	PARTICULARS	TO BE FURNISH BY BIDDER
		1.	Name & address of manufacturer	
		2.	Work's address	
		3.	Work's address	
		4.	Raw material of polycarbonate seals	
		5.	UV resistance properties	
		6.	Seal shall not be affect by boiling water & acid	
		7.	Seal should have 6 inch long 26 gauges, twisted strand stainless steel wire non corrosive & non magnetic	
		8.	Max. Withstand temperature (upto 147deg.c.)	
		9.	Thickness of seal	
		10.	Size of female part	
		11.	Serial number should be laser printed on male & female part & should be separately visible after closing of sea	
		12.	Embossing of LOGO & other details is as Per specification	
		13.	Colour of the seals	
		14.	Seal should be constructed/moulded with one piece twisted sealed wire & polycarbonate male & female part such way that no extra seal wire is required.	
		15.	Seal design should be such that once seal is closed, the two parts should not be separated.	
		16.	Seal should permanently secure steel wire inside seal after closing of male & female part.	
		17.	Seal should have positive locking & locking should be easy & should be possible with pressure of thumb.	
		18.	1. Surface finish- Male & female part – The surface should be free from any burr or casting voids etc.  2. Embossing quality- embossing should have superior quality  3. Colour shade- the colour shades of all seals of specific color should be same.	
		19.	Guarantee of seal	
		20.	SEAL should be PATENTED (Provide patent no. & patent drawing, design with copy of PATENT certificate/ Certificate of registration of design from the Patent office, Government of India/Design Patent License.	
		21.	Seal wire details	
		22.	a. Color of female part( Clear transparent preferable /same as colour of male part) b. Color of male part(As per specification)	
		23.	Manufacturer specific secret code -(Yes/No)	
		24.	Clause wise Compliance to the technical specification (Agreed /Not agreed)	



**Specification No:** ENG-GEN-4000 (A)

**Specification Name:**

Technical Specification For Polycarbonate  
Meter Seal

19	<b>SCHEDULE OF DEVIATIONS</b>	<p style="text-align: center;"><b>(TO BE ENCLOSED WITH THE BID)</b></p> <p>All deviations from this specification shall be set out by the Bidders, clause by Clause in this schedule. Unless specifically mentioned in this Schedule, the tender shall be deemed to confirm the purchaser's specifications:</p> <table border="1" data-bbox="462 493 1502 945"><thead><tr><th data-bbox="462 493 784 569">S.No.</th><th data-bbox="784 493 1109 569">Clause No.</th><th data-bbox="1109 493 1502 569">Details of deviation with justifications</th></tr></thead><tbody><tr><td data-bbox="462 569 784 945"></td><td data-bbox="784 569 1109 945"></td><td data-bbox="1109 569 1502 945"></td></tr></tbody></table> <p>We confirm that there are no deviations apart from those detailed above.</p> <p>Seal of the Company: _____</p> <p style="text-align: right;">Signature _____ Designation _____</p>	S.No.	Clause No.	Details of deviation with justifications			
S.No.	Clause No.	Details of deviation with justifications						
20.0	<b>AUTHORISED SUPPLY UNDERTAKING</b>	<p style="text-align: center;"><b>(TO BE ENCLOSED WITH THE BID)</b></p> <p>On award of contract the bidder should not sell or offer the seals with TPWODL/TPNODL/TPCODL/TPSODL logo to any unauthorized person outside TPWODL/TPNODL/TPCODL/TPSODL in any circumstances. We confirm that we or any our company representative shall not offer to sell the TPWODL/TPNODL/TPCODL/TPSODL logo seals to any unauthorized person outside TPWODL/TPNODL/TPCODL/TPSODL.</p> <p style="text-align: right;">Seal of the Company: _____ Signature _____ Designation _____</p>						