

SCHEDULE-III**TECHNICAL SPECIFICATION FOR TAMPER EVIDENT STICKER SEAL WITH ULTRA VIOLET FEATURES AGAINST TN-2620****1. SCOPE:**

The specification covers the design, manufacture, testing at manufacturers works, supply and delivery at stores of tamper proof (und detachable) sticker seals with ultraviolet features for sealing electric installation viz. Polycarbonate/ Metal Meter body of energy meters, Meter Box & CT-PT Units etc. These seals shall also be used for LT/HT industrial consumers and in theft prone areas.

2. Material of seal:

The und detachable sticker seals should be made of self adhesive white film. The film should be made from synthetic materials, which cannot be removed under cold condition and on application of heat, the film should get de - shaped or melt completely.

3. Service Conditions (Climatic Conditions) :

The meters to be supplied against this specification should be capable of performing and maintaining required accuracy under extreme hot, cold, tropical and dusty climate and solar radiation typically existing in state of Rajasthan (India). The meter shall be required to operate satisfactorily and continuously under the following tropical climatic conditions.

1	Maximum ambient air temperature	55 deg.C.
2	Maximum ambient air temperature in	45 deg.C
3	Maximum temperature attainable by the meter	60 deg.C.
4	Minimum ambient temperature	(-) 5 deg.C.
5	Average daily ambient air	40 deg.C.
6	Maximum relative humidity	95%
7	Number of months of tropical monsoon	4 months.
8	Maximum attitude above mean sea	1000 meters.
9	Average annual rain fall	10-100 cm.
10	Maximum wind pressure.	200 kg/sq.m

4. Design of Seal:

(A) Colour of the seal film should be white so that clear visibility of printed matter (in black) be possible.

- (B) SIZE OF SEAL: Size of seal shall be 75 mm x 25 mm.
- (C) THICKNESS: Thickness of sticker seal should be 80-85 microns so that it may be handled easily by field staff i.e. it should not be torn off when it is removed from release paper.
- (D) SERIAL NO. OF THE SEAL, BAR CODE, SECURITY CODE & MONOGRAM:
Seal should have continuous 7 digits alpha numeric Sr.No. starting from e.g. JPD/AB 00001. The security code and the bar code should be printed on the seal. The security code should be obtained by successful bidder(s) from the purchaser which shall be finalized by mutual consultation at the time of placing order. The bar code shall comprise of Sr. No. and month, year of manufacture of seal. Seal should be printed with monogram of JAIPUR DISCOM and "JAIPUR VIDYUT VITRAN NIGAM LIMITED, JAIPUR". The printing should be in black. Printing on seal should be indelible which is not affected by water. On the seal the wording " Tempering of this seal is an offence under IE Act 2003 and deemed as theft of electrical energy" in English should be written . Sr. Numbering should be printed on the left side in a vertical direction and also in a semi circular shape on the right hand corner which would be visible only under U.V. portion for the last 3 digits would be as per Annexure, enclosed.
- (E) CONTINUITY: Seal should have facility of testing of its continuity. If it is cut by sharp blade its continuity should be broken and it can be checked by continuity tester. Continuity line should not decay/ expose/ oxidize cover the complete life span of the seal continuity tester over 1000 seal should be provided on free of cost.
- (F) LINER : The seal should have release paper as liner.
- (G) ADHESIVE PROPERTY : The seal should have adhesive of good quality and sufficient strength to avoid peeling off under extreme temperature and environmental conditions. The adhesive property of seal should be retained minimum one year from the date of receipt in stores when not in use. The seal adhesive should remain unaffected at temperature extreme upto 120 deg. C. The adhesive should have a resistance to many solvent like mild acid, alkalis & petrol, Hi-tech adhesive which bonds extremely well with metal/ plastic/ Bakelite/ polycarbonate and other material.

5. SPECIAL FEATURES:

- a. Seal can be used on metal/ glass/polycarbonate/ engineering plastic / SMC surfaces. Once the seal is applied it cannot be removed without showing signs of tamper evidence.
- b. In normal condition if the seal is removed then 'VOID'/tamper impression will be visible on the seals if applied again.
- c. If heat is applied than the top layer of the seal will shrink along with the seal and will disturb the printing.

- d. If someone tries to cut the seal with a sharp object than that portion will glow under UV light which otherwise will not glow if the seal is not tampered.
- e. If the seal is removed and applied again then the seal will glow under UV light.
- f. If heat is applied to remove the seal the printing will get disturbed and the shape of the seal will change and does not come back to original. The size of the seal shrinks when more heat is applied and if the seal is checked with a UV light the original place where the seal was applied will glow.
- g. Print securities code linked with serial numbers which can be seen by naked eyes and the same is also printed in such a way which can be seen only under UV light and the serial number printed in UV should be printed in small and semi circular shape.
- h. Bar codes of serial numbers which can be read using a bar code scanner/ with manufacture of month and year.
- i. Provide a continuity line on the seal which can be checked with a continuity tester and it will not show continuity if the seal is cut.
- j. The seal should be water proof and can withstand all the weather conditions and the printing cannot be tempered with water or solvents.
- k. Seals cannot be tampered with solvents and chemicals. Seals will show tamper evidence or will show tamper evidence if some solvents and chemicals are applied on it to tamper it.
- l. Apply a special film on seals which protects the printing from fading due to sunlight and it protects the seal from water, climatic and weather conditions.
- m. The life of seal should be more than 7 years.
- n. Make 2 Nos. special security cuts at 10 mm distance from each side with exact precise location of the seal in I shape with computerized plotters. This security cuts will glow under UV light and the seal will tear off from the security cuts one some one tries to removed it under normal condition.
- o. Seal should be digitally printed on white film having UV (Ultra Violet) features. The Sr. No. (which will be same as printed on seal) and hidden mark (which will be given at the time of placing order) will be visible only through Ultra Violet Torch. This helps in detecting original or duplicate seals.
- p. Seal should not get peeled off as a single piece with help of sharp knife/ blade etc. Specialty of these seals is that, if consumer try to remove it, the seal should get torn off a or show tamper evidence . The seal also have arrangement of ultraviolet printing. The seal should show VOID/ tamper impression if any attempt is made to tamper it at room temp. Seal should not be peeled off as single piece . A 2D/3D hologram of size 15 mm x 15 mm should be provided in the sticker seal, if any attempt to remove hologram portion of the seal, the seal

should get destroyed . The logo of JAIPUR DISCOM should be printed on the hologram portion.

- q. Signature of the nominated officer by Hon' ble CMD, Jaipur Discom, Jaipur should be provided on the sticker seal and will be intimated at the time of approval of ultraviolet sticker seals before commencement of supply.

6. Testing:

The stickers seals shall be inspected / tested as a acceptance test at manufacture's works before dispatch in presence of authorized representative of purchaser for the following tests:

- a. Physical Checking/dimensional checking.
- b. Checking for continuity/ultraviolet feature.
- c. HEAT RESISTANCE: Seal should not get removed affected/distorted/shrunked in temperature range of -20 deg.C. to +80 deg.C. Seals should be easily identified if disturbed/changed in its shape/destroyed/melted if excess heat (Above 80 deg.C. temp. applied).
- d. CHEMICAL TEST : The seal should dissolve when comes in contact with petrol & organic solvent like alcohol, Benzene & acetone etc.
- e. WATER PROOF: Seal should be water proof & should not get destroyed/shrunked/distorted even if it remain in direct contact with rain.
- f. WEATHER PROOF : Seal should not be affected/distorted/shrunked/destroyed in the temp. range of -20 deg.C. to + 80 deg.C.
- g. HOT BLOW RESISTANCE : Seal should not get peeled off as a single piece in hot condition with help of hot blower i.e. it should show temper evidence if any attempt of hot blower is made.
- h. SAMPLING CRITERIA : For carrying out acceptance tests at manufacture's work samples shall be selected minimum 10 (ten) at random for testing purpose from the each lot of 5000 Nos. or part thereof. The seals used in testing shall be destroyed in the presence of Nigam's inspecting officer.

7. **RANDOM TESTING** : One sample from 5000 Nos. Stubs shall be selected for the random testing of the material in MST, CPH, Jaipur Discom, Lab, Jaipur after receipt in the stores irrespective of the fact whether or not it was inspected before dispatch will be carried out and in case of any failure, the entire lot shall be rejected at the risk & cost of the supplier. The testing is to be carried out for the tests as mentioned at Clause 4(G) and Clause 6 (a),(b),(e),(g).

8. **GUARANTEE** : The seal should be withstand shelf life in atmospheric condition at least for two years from the date of receipt in stores. In case

if any defect in design and manufacturing is noticed within the guarantee period, the seals shall be replaced within one month free of cost . The defective seals found in the field viz. STORES/FIELD OFFICERS shall be collected by you at your risk and cost and shall be destroyed at their works in the presence of purchasers representative. For the replacement of seal, revised Sr.Nos. shall be provided by the purchaser.

- 9. TYPE TESTS:** The seals should be duly tested & certified by national/ international laboratories for testing adhesive, water proof, heat resistance test / hot blower resistance test, environmental condition test and should submit with tender offer.
- 10. REPLACEMENT OF REJECTED SEALS:** In case material are found not in accordance with prescribed specification and / or the approved samples, the same will be rejected and the supplier shall replace the rejected material free of cost within one month from the date of intimation.
- 11. PACKING AND FORWARDING:** The seal shall be paced properly in chronological order i.e. arranging in serially and the same shall be packed in polythene/ plastic bag with labels furnishing of Sr.Nos. of the seals and name of circle.
- 12. TENDER SAMPLE:** Each bidder shall have to enclose 15 Nos. of sample along with bid. The bid without samples shall be treated as non responsive and rejected. The sample seal shall be tested as per specification. The tender sample seal not confirming to the specification shall be straight way rejected & accordingly their offer will not be considered for further evaluation.
- 13. DRAWING:** Detailed dimensional drawing showing clearly the dimensions and it constructional features should be furnished with tender offer for approval.
- 14. ACCESSORIES:** Following accessories are mandatory with sticker seals with free of cost:
 - a. Continuity Tester : One continuity taken over 2000 sticker seals.
 - b. UV Torches : One UV Torch over 2000 sticker seals.
- 15. QUALITY OF SUPPLIES:** All material supplied shall be strictly as per the specification laid down and in strict accordance with and as per the approved standard samples.
- 16. FORM OF UNDERTAKING:** On placement of order, bidders shall have to give undertaking as desired by the Jaipur Vidyut Vitran Nigam Ltd.

17. ADDITIONAL ORDER: Repeat orders for additional quantities, up to a maximum of 50% of original ordered quantities, may be placed by the Nigam, on the same rates, terms and conditions given in the contract.

18. DELIVERY SCHEDULE:

You shall commence the supply after 45 days from the date of receipt of this detailed purchase order or approval of artwork whichever is later and shall complete entire order within two months thereafter.

The circle-wise Sr. No. and security code to be printed on supplied seals shall be intimated at the time of Purchase Order.