



TECHNOLOGY DEVELOPMENT FUND (TDF) SCHEME



10

TITLE: DEVELOPMENT OF BIAXIALLY STRETCHED MICROPOROUS EXPANDED PTFE MEMBRANE IN CONTINUOUS ROLL FORM

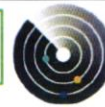
1. **Description:** DRDO has developed structural firefighting suit (SFFS) and transferred the technology to industries. The moisture barrier layer is one of the constituent layers in the SFFS, and it should be flame retardant, waterproof and breathable as per national and international norms. The moisture barrier layer is developed by laminating Biaxially Stretched Microporous Expanded PTFE with the base fabric. This is based on the fire protective textile/polymer engineering technology area with the objective of developing a process for Biaxially Stretched Microporous Expanded PTFE membrane in continuous roll form at a large scale.

2. **Functional and operational:** Development of a process to prepare Biaxially Stretched Microporous Expanded PTFE membrane in continuous roll form at a large scale to be developed and produced as per the following specifications:
 - i. Weight (g/m²): 20-30
 - ii. Pore size of the expanded PTFE membrane should be less than 1µm.
 - iii. Hydrostatic head pressure: 400 mbar
 - iv. Tensile strength (N/cm), minimum 4.00 (N/cm) in length and 8.00 (N/cm) in width.
 - v. Vertical Burn test: No drip or afterglow.
 - vi. Water Vapour transmission rate (WVTR) invert (g/m²/24hr): 15000-20000 (ASTM E-96 inverted cup method)
 - vii. WVTR upright (g/m²/24hr): 700 or more

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FEASIBILITY CUM RFI RESPONSE FOR THE PROJECT REQUIREMENT UNDER TDF SCHEME (PROFROMA)

1. **Name of the Institute** (Industry/Academia):
2. **Contact details:**
 - a. Email
 - b. PoC
 - c. Address
3. **Title of the project requirement:**
4. **Project Description** (Define broad understanding of the project requirement and proposed solution under the project).
5. **Briefly detail the proposed technical solution in terms of subsystem/submodule levels.**
6. **Road map for achieving the proposed outcome (Development Plan Phase wise -Max 5 phases).**
7. **Development and production Estimates:**
 - i. Estimated time required for development of the proposed technology /product (In Months).
 - ii. Estimated cost required for the for development of the proposed technology /product (BQs of submodules/subsystems if any pls attach).
 - iii. Estimated production cost of the end product after successful development (per unit or batch cost).
 - iv. Whether the industry has already done any Suo moto design and development of the proposed product/technology at Technology Readiness Level – Yes/No
 - v. Details of Suo moto design and development done if marked Yes in previous question (within 250 words).
 - vi. Essential infrastructure required for development of the proposed product/technology for which funding is required.
8. **Technical strength in terms of manpower.**
9. **Relevant Work Experience.**
10. **Any other relevant information**

Queries if any and the reply in PDF FORMAT to be submitted online addressing to;

TO,

THE DIRECTOR TDF, DRDO

DRDO BHAWAN, RAJAJI MARG, NEW DELHI 110011

Email to, arjunk.hqr@gov.in, CC to dir.tdf-drdo@gov.in.