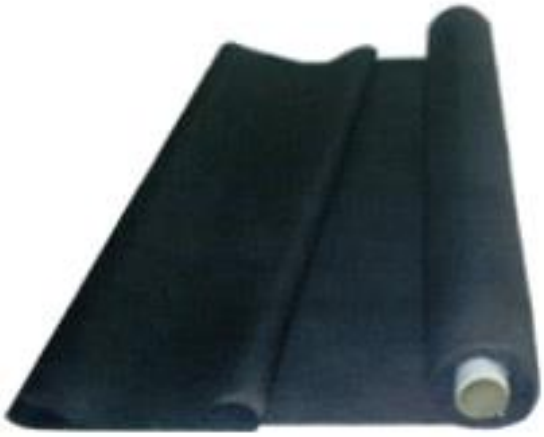
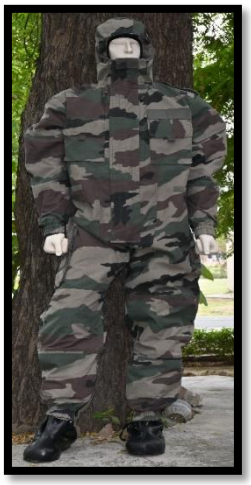
Activated Carbon Fabric (ACF) based CBRN Suit (CBRN Suit Mk VI)

Activated carbon is available in different forms viz; powders, beads, fibers and fabrics. Activated carbon in fabric or fiber form is known to be more advanced form with significant advantages over conventional forms like powders or beads. The technology of ACF is the outcome of combination of technology for carbon fiber manufacturing and its activation. The important advantages of ACF over conventional activated carbon materials are

- Smaller fiber diameter which minimizes mass transfer limitations; enhancing sorption rate.
- Rapid adsorption/ desorption, more homogeneous pore size distribution, excellent adsorption capacity at low concentration of adsorbates.
- Possibility of confining the fibers in various physical forms like tows, fabrics, and felts.





ACF is derived by carbonization and activation of viscose rayon, PAN, pitch and phenolic resin based textile fabric. The new textile protective clothing made from ACF is light, flexible and highly permeable providing more comfort to the wearer. These ACFs have been invariably used in inner or middle layer of a multiple layer fabric for protective clothing. ACF based suit are designed with extra protection at the wrist and leg, inherent & antistatic outer fabric is made of blended yarn and Indian Army disruptive pattern. It is developed in four sizes S, M, L, XL.

Reinforcements in the form of woven films or fabrics help to improve strength and abrasion resistance. A lot of interest has been generated in recent years among researchers to reduce the cost of precursor so that the cost of ACF is low. DMSRDE has developed the ACF technology for

the development of advanced version of ACF based CBRN suits with chemical protection of more than 24 hours against CWA.

Interested Industries are requested to forward their Expression of Interest (EoI) to Director DMSRDE, Kanpur with a copy of Director DIITM, DRDO HQ on following address:-

To,

Director
Defence Materials and Stores Research & Development Establishment (DMSRDE)
DRDO, Ministry of Defence, Government of India
PO DMSRDE, GT Road,
Kanpur-208013
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E-mail ID : **director[dot]dmsrde[at]gov[dot]in**

Copy to

Director
Directorate of Industry Interface & technology Management (DIITM)
Room No. 447, DRDO Bhawan, DRDO HQrs, Rajaji Marg, New Delhi-110011
Phone: 011-23013209/23015291
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Email: **diitm[dot]hqr[at]gov]dot]in**

Industries are requested to enclose supporting document in EoI as per Appendix 'D' of DRDO Policy and Procedure for ToT available at **https://www.drdo.gov.in/sites/default/files/inline-files/drdo%20Policy%20%26%20Procedure%20%20for%20ToT.pdf**