

<b>Project Title- 22</b>	<b>Development of Fire Resistant Yarns and Fabric Using Air-jet Spinning Technology</b>
<b>Principal Investigator</b>	Dr. Arindam Basu
<b>Cost</b>	Rs.26.55 lakhs
<b>Date of Commencement</b>	01.09.1999
<b>Duration</b>	24 Months
<b>Date of Completion</b>	Sep 2001
<b>Abstract</b>	<p>Fire – resistant fabrics are in great demand today. Its users include fire fighters, Metallurgical industries, Airways, Railways etc. Fabrics have been developed using yarns in which cotton or viscose fibres are on the surface and FR synthetic filaments (Nomex) in the core. This gives very good flame retardant properties to the fabric without affecting the comfort properties. For producing these yarns, air – jet spinning technology has been utilized. The results show that the yarn having Nomex as core and flame retardant viscose as sheath possess very good flame retardant properties required for specialized end uses. The fabric containing Nomex / cotton yarns possess good FR properties required for medium end uses such as common apparel, curtains etc.</p>
<b>Highlights</b>	<ul style="list-style-type: none"> <li>▪ Core yarns using Nomex as core and Viscose and Cotton fibre as cover can be spun successfully using Air-jet spinning machine</li> <li>▪ The fabrics produced using Nomex / FR viscose yarns are flame retardant with very high LOI values (above 30.0). These are suitable for high end uses.</li> <li>▪ The fabrics produced using Nomex / Cotton yarns are flame retardant (after application of Durable FR finish) with very high limiting Oxygen Index values (above 30.0). These</li> </ul>
<b>Area of applicability</b>	Protective textiles
<b>Target beneficiaries</b>	<ul style="list-style-type: none"> <li>• The study findings were disseminated to SITRA member mills</li> <li>• Mills have found the findings of the study useful to manufacture fire resistant fabrics</li> </ul>
<b>Status</b>	Completed