

INSPECTION SERVICE

INSPECTION SERVICE for Heat and Flame Protective Clothing and Related PPE

The question of how well textiles retain their properties is always an important issue particularly in fields such as clothing providing heat and flame protection.

The Personal Protective Equipment (PPE) Directive requires manufacturers of PPE to give information on obsolescence/lifespan. It is recognised that the manufacturer cannot have full control of conditions of use of PPE but shall assist the user in determining when PPE is to be withdrawn from use.

FTS can assist manufacturers and users by evaluating clothing and related PPE taken directly from service for changes in flame retardancy, heat penetration and most other protective properties.

There are several causes of "ageing" of PPE, defined as changing of the product performance over time during use or storage. These causes can be one or more of:

- **Cleaning, maintenance or disinfecting processes**
- **Exposure to visible and/or ultra-violet radiation**
- **Exposure to high or low temperatures or to changing temperatures**
- **Exposure to chemicals and biological agents including humidity**
- **Exposure to mechanical action and "wear and tear"**
- **Exposure to contaminants such as dirt, oil, splashes of molten metal etc.**

With respect to clothing and related PPE for protection against heat and flame several of the above situations could apply. For example, the main concern to users of industrial fire protective clothing is that the flame retardant performance is retained after the laundering process. In the case of firefighter's clothing which is made up of several layers of different materials the effect of laundering is also important but with the emphasis being



on whether this causes increases in the heat penetration through the thermal barrier component thus reducing the protection of the wearer. Visual assessment, even if this were possible with such an internal component, is insufficient to determine if heat penetration may have fallen below the minimum requirements of the product specification, eg EN 469. FTS undertakes specific inspection programmes for users and manufacturers of PPE, in particular for fire brigades. It can advise users as to the protective properties most likely to be reduced by the end-use environment and then devise an appropriate sampling and testing programme as an **independent inspection service**.

Inspection programmes designed to meet individual needs
- fire brigades
- manufacturers
- other users of PPE

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