



## Face/Neck Shroud

by Kevin Lee, Forestry Technician

In a continuing effort to improve firefighter safety, the Missoula Technology and Development Center (MTDC) has studied the problems of providing face/neck protection from radiant heat without compromising work performance. Extensive testing of face/neck shrouds and balaclava-style hoods (alone and combined with a respirator) was performed at the University of Montana Human Performance Laboratory. Results indicate that the detachable face/neck shroud provided the best protection without causing undue discomfort or heat stress.

Many models currently in use are equipped with hook and pile fasteners (Velcro), allowing the shroud to be

attached to the back and sides of the hardhat; hardhats that don't already have the Velcro strips can be retro-fitted, and at least one hardhat manufacturer sells a kit for this purpose. This lets the firefighter remove the shroud when it isn't needed — yet reattaching the shroud is quick and simple, accomplished in a few seconds. Velcro strips are sewn to the front of the shroud, enabling the firefighter to secure the shroud around the throat and lower face.

One note of caution: The use of a face/neck shroud allows the firefighter to approach and remain closer to the fire, increasing exposure to radiant heat. Some personal protective equipment is constructed of plastics that soften around 300°F. It has been



When not in use, the face/neck shroud can be rolled up and stowed between the hardhat shell and liner, or detached and kept in your pack.



Hook and pile tape provides a quick and easy method for attaching the shroud to a hardhat.



observed that firefighters using face/neck shrouds have been able to remain in areas of intense heat that resulted in equipment failures of protective goggles, hardhats, and webbing or packs made of polypropylene, placing the firefighter at risk.

These observations of equipment failure serve to point out one important consideration about the use of the face/neck shroud: it is intended to give the firefighter added protection when leaving situations that suddenly occur (flare-ups, crown-outs, etc.) or getting past areas of intense heat; it is not intended to be used by the firefighter to approach and remain in areas of high radiant heat.

MTDC recommends firefighters routinely carry shrouds in their pockets or packs, rather than attached to their hardhats. This not only allows maximal head cooling; it also keeps the face uncovered, and exposed skin is the firefighter's best indicator that

radiant heat is reaching potentially hazardous levels. When sudden, unavoidable conditions cause a level of exposure which exceeds normal situations, the shroud can be quickly attached to give added protection to the firefighter.

MTDC further recommends that individual wildland fire agencies should set specific direction for use of face/neck shrouds by their employees. Shrouds are discussed in the National Fire Protection Association (NFPA) Standard 1977, "Protective Clothing and Equipment for Wildland Firefighters," so agencies procuring shrouds may wish to consider this before making purchases.

If you have questions about face/neck shrouds or want to know what important features to look for when purchasing face/neck/face protection, contact Ted Putnam, Project Leader, Bldg. 1, Ft. Missoula, Missoula, MT 59801, (406) 329-3965, DG:R01A.



Designed to protect the face and neck from the radiant heat of sudden flare-ups, the shroud is made of the same Nomex® material as the fire shirt.