

FILM FORMING FLUORO PROTEIN FOAM CONCENTRATE (FFFP)

HD FFFP is based on proteineous material, which gives good sealing and excellent burn back resistance. The limitation of protein foam regarding slow spreading is overcome by incorporating fluorinated surfactant in the formulation; spreading is improved without affecting foam stability. HD FFFP is formulated with hydrolysed protein, fluoro chemicals, metal salts, special stabilizers and preservatives to give the best performance and satisfactory storage. It is highly reliable, cost effective and efficient fire extinguishing agent which gives rapid extinguishment, high resistance to heat and fuel pick-up.

HD FFFP is suitable for fighting fires of non-polar, flammable solvents.

APPLICATIONS:

- HD FFFP is available as 3 % foam concentrate
- It can be used with soft or hard, fresh, brackish or sea water.
- It can be applied with the help of all types of nozzles, inductors, foam chambers, balance pressure variable flow proportioners, balanced pressure bladder tank proportioners and around the pump proportioners, low expansion branch pipes, monitors, top pourer sets, rim seal foam pourers, foam/water sprinklers etc.
- It is recommended for use as stated in NFPA 11, 16,403 & 409.
- An ideal choice for sub-surface application as it has very high resistance to the fuel pick up.
- Used at Airports, Military bases, Hydrocarbon storage tanks, Process areas, Road/Rail loading racks, Marine Terminals, Tank farms, oil jetties, refineries and offshore oil platforms.

COMPATIBILITY:

HD FFFP is compatible with all types of dry powders and equivalent foams.

SHELF-LIFE:

HD FFFP has a minimum shelf life of 5-7 years in tropical conditions and if properly stored in its original container or tanks suitable for storage. Refer Technical Bulletin for storage condition guidelines.

STORAGE:

Storage temperature should be below 49 °C. The product can withstand intermittent, short time exposure up to 60 °C temp. Ensure containers are not directly exposed to sunlight & heat for a long period. It is unaffected by freeze/thaw cycles.

ECOLOGY:

HD FFFP is environmentally safe. It is bio-degradable and low toxic to the aquatic organisms.

PACKING:

UL recognized HDPE containers of 20, 30 Liters or 200 Liters.

DISPOSAL:

HD FFFP can be successfully treated in biological waste water treatment systems. Local regulations put forth by the authorities having jurisdiction should be complied with for discharge in drainage/sewage systems.

PHYSICAL PROPERTIES

PROPERTY	3 %
APPEARANCE	Dark brown coloured liquid
pH @ 20°C	6.5 – 7.5
Sp. Gravity @ 20 °C	1.12 to 1.14
Freezing Point	-7°C
Viscosity @ 20 °C	Less than 30 cSt
Sediment	Maximum 0.5%
**Expansion Ratio	≥7
**Drainage (25 %)	≥3 min

** Expansion & Drainage values depend on equipments, application conditions & application density.

LIMITED WARRANTY

HD FIRE PROTECT PVT. LTD. hereby referred to as HD FIRE warrants to the original purchaser of the fire protection products manufactured by HD FIRE and to any other person to whom such equipment is transferred, that such products will be free from defect in material and workmanship under normal use and care, for two (2) years from the date of shipment by HD FIRE. Products or Components supplied or used by HD FIRE, but manufactured by others, are warranted only to the extent of the manufacturer's warranty. No warranty is given for product or components which have been subject to misuse, improper installation, corrosion, unauthorized repair, alteration or un-maintained. HD FIRE shall not be responsible for system design errors or improper installation or inaccurate or incomplete information supplied by buyer or buyer's representatives.

HD FIRE will repair or replace defective material free of charge, which is returned to our factory, transportation charge prepaid, provided after our inspection the material is found to have been defective at the time of initial shipment from our works. HD FIRE shall not be liable for any incidental or consequential loss, damage or expense arising directly or indirectly from the use of the product including damages for injury to person, damages to property and penalties resulting from any products and components manufactured by HD FIRE. HD FIRE shall not be liable for any damages or labour charges or expense in making repair or adjustment to the product. HD FIRE shall not be liable for any damages or charges sustained in the adaptation or use of its engineering data & services. In no event shall HD Fire's product liability exceed an amount equal to the sale price.

The foregoing warranty is exclusive and in lieu of all other warranties and representation whether expressed, implied, oral or written, including but not limited to, any implied warranties or merchantability or fitness for a particular purpose. All such other warranties and representations are hereby cancelled.

NOTICE :

The equipment presented in this bulletin is to be installed in accordance with the latest publication standards of NFPA or other similar organisations and also with the provision of government codes or ordinances wherever applicable.

The information provided by us are to the best of our knowledge and belief, and are general guidelines only. Site handling and installation control is beyond our reach. Hence we give no guarantee for result and take no liability for damages, loss or penalties whatsoever, resulting from our suggestion, information, recommendation or damages due to our product.

Product development is a continuous programme of HD FIRE PROTECT PVT. LTD. and hence the right to modify any specification without prior notice is reserved with the company.