STANVAC CHEMICALS INDIA LTD

PASSIVE FIRE PROTECTION FOR HOSPITALS

Super-Speciality | Multi-Speciality | District & Government | Day-Care | Nursing Homes

Hospitals carry an unusual fire risk: high oxygen concentrations, dense alcohol-based product storage, 24×7 occupancy, and patients who often cannot evacuate themselves. This application sheet maps every fire-critical zone in a hospital — from the substation to the mortuary — and matches each to the Stanvac Passive Fire Protection product that addresses it. Use it as a reference for design, specification, BOQ and audit.

A. PATIENT-CRITICAL CLINICAL AREAS

8 zones

ZONE / AREA	FIRE SCENARIO	STANVAC PFP APPLICATION	PRIORITY
ICU / NICU / PICU	Oxygen-enriched, non-evacuable patients on life support	**Cable coatings, panel FP, firestops, FR doors**	**Non-negotiable**
Operating Theatre complex	Anaesthetic gases, high alcohol load, power-critical	**Cable coatings, panel FP, firestops at OT boundary**	**Non-negotiable**
Dialysis unit	Patients connected to machines; cannot evacuate quickly	**Cable coatings, panel FP, firestops**	**Critical**
Cath lab / Endoscopy / Cardiac OT	High-value equipment; sedated patients	**Cable coatings, panel FP, firestops**	**Critical**
Recovery & post-op wards	Sedated patients with limited mobility	**Firestops at ward boundary, FR doors, panel FP**	**Critical**
Isolation & infectious-disease wards	Closed-environment; evacuation triggers cross-infection	**Cable coatings, firestops, FR doors**	**Critical**
Emergency / Trauma / Casualty	24×7 high-load; patients on stretchers and ventilators	**Cable coatings, panel FP, firestops**	**Critical**
Labour & delivery suite	Mothers and newborns; cannot evacuate during procedure	**Firestops, FR doors, panel FP**	**Critical**

B. ELECTRICAL & POWER INFRASTRUCTURE

12 zones

ZONE / AREA	FIRE SCENARIO	STANVAC PFP APPLICATION	PRIORITY
Main LT / HT substation	Transformer + cable fire	**Cable coatings, firestops, panel FP**	**Critical**
Floor-wise distribution panels	Cable + compartment breach	**Panel FP, firestops**	**Critical**
OT / ICU dedicated electrical panels	Must not lose power during fire	**Panel FP, cable coatings, firestops**	**Critical**
UPS & battery rooms	Thermal runaway, hydrogen build-up	**Firestops, FR doors, panel FP**	**Critical**
DG (Diesel Generator) rooms	Fuel + lube oil fire	**Panel FP, firestops, cable coatings**	**Critical**
Cable risers / electrical shafts	Propagating cable fire between floors	**Cable coatings + slab firestops at each floor**	**Critical**
HVAC AHU / chiller control panels	Cable + duct fire propagation	**Panel FP, firestops**	**Critical**

ZONE / AREA	FIRE SCENARIO	STANVAC PFP APPLICATION	PRIORITY
BMS / fire alarm central panel	External fire damages emergency systems	**Panel FP, firestops, FR doors**	**Critical**
Fire water pump house	Must survive the fire it is fighting	**Fireproofed structure, FR cables**	**Non-negotiable**
Firemen's lift power circuit	Must operate 2 hr minimum during fire	**Fire-survival cable, panel FP**	**Non-negotiable**
Smoke extraction & stairwell pressurization fans	Fans must run during fire	**Fire-survival cable, panel FP**	**Non-negotiable**
PA / emergency voice communication	Hospital-wide evacuation announcement	**Fire-survival cable, firestops**	**Non-negotiable**

C. MEDICAL GAS & FLAMMABLE STORAGE

7 zones

ZONE / AREA	FIRE SCENARIO	STANVAC PFP APPLICATION	PRIORITY
Central oxygen manifold room	Oxygen-enrichment fire is catastrophic	**Panel FP, firestops, FR doors, cable coatings**	**Non-negotiable**
Bulk LMO (Liquid Medical Oxygen) tank yard	External fire near cryogenic tank	**Fireproofed cable routes, structural FP**	**Non-negotiable**
Medical gas pipeline shafts	Pipe-shaft fire compromises supply to all wards	**Firestops at every floor, cable coatings**	**Critical**
Medical gas alarm & control panels	Loss of monitoring during fire	**Panel FP, fire-survival cable**	**Critical**
Alcohol & disinfectant bulk storage	Vapour-rich flammable store	**Firestops, FR doors, panel FP at boundary**	**Critical**
Compressed-gas cylinder store	Cylinder rupture during fire	**Structural FP, firestops, FR doors**	**Critical**
Vacuum / suction plant room	Electrical + oil-vapour fire	**Panel FP, firestops, cable coatings**	**Critical**

D. SUPPORT SERVICES & UTILITY AREAS

6 zones

ZONE / AREA	FIRE SCENARIO	STANVAC PFP APPLICATION	PRIORITY
Central kitchen	Cooking oil + LPG, high ignition frequency	**Firestops, FR doors, panel FP, kitchen duct PFP**	**Critical**
Hospital laundry	Lint-loaded dryers; chemical & detergent storage	**Firestops, FR doors, cable coatings**	**Critical**
CSSD (Central Sterile Services Department)	Autoclaves; ethylene-oxide sterilizers	**Firestops, panel FP, FR doors**	**Critical**
Linen & material storage	Heavy combustible load	**Firestops at boundary, FR doors**	**High**
Hospital pharmacy & drug store	High-value combustible inventory; alcohol-based formulations	**Firestops, FR doors, panel FP**	**Critical**
Hospital waste / bio-medical waste store	Combustible PPE, plastics, sharps containers	**Firestops, FR doors at segregation boundary**	**High**

E. RECORDS, MORTUARY & ARCHIVAL AREAS

7 zones

ZONE / AREA	FIRE SCENARIO	STANVAC PFP APPLICATION	PRIORITY
Medical records room (paper archive)	Dense paper load; total compartment loss in <10 min	**Firestops at boundary, FR doors, panel FP**	**Critical**
Digital records / server / data centre	Electrical fire destroys patient histories	**Cable coatings, panel FP, firestops, FR doors**	**Critical**
X-ray / radiology film archive	Legacy nitrate / acetate film is highly combustible	**Firestops, FR doors, panel FP**	**Critical**
Mortuary cold storage	Refrigeration compressor fire damages bodies in custody	**Cable coatings, panel FP, firestops**	**Critical**
Mortuary post-mortem & embalming room	Formaldehyde, alcohol, electrical equipment	**Firestops, FR doors, panel FP**	**Critical**
Blood bank & blood storage	Loss of refrigeration during fire destroys irreplaceable units	**Cable coatings, panel FP, firestops**	**Critical**
Pathology lab & sample archive	Solvents, reagents, electrical equipment	**Firestops, FR doors, panel FP**	**Critical**

F. COMPARTMENTATION & STRUCTURAL FIRESTOPS

9 zones

ZONE / AREA	FIRE SCENARIO	STANVAC PFP APPLICATION	PRIORITY
Every floor slab — cable, pipe, duct penetrations	Vertical fire spread between floors	**Slab firestops at each floor in every shaft**	**Critical**
OT complex boundary	Smoke ingress into operating zone	**Cable & duct penetrations, 2-hr firestops**	**Critical**
ICU / NICU boundary	Smoke ingress to non-evacuable area	**Cable & duct penetrations, 2-hr firestops**	**Critical**
Ward corridor compartment walls	Loss of NBC 2016 Part 4 compartmentation	**Firestop sealants, FR collars at all penetrations**	**Critical**
HVAC duct penetrations across fire zones	Smoke and flame travel via ducting	**Fire dampers + intumescent collar seals**	**Critical**
Lift shaft boundary	Lift shaft acts as chimney	**Cable & duct penetrations, 2-hr firestops**	**Critical**
Evacuation staircase pressurization shaft	Smoke contamination of escape route	**Duct & cable penetrations, 2-hr firestops**	**Non-negotiable**
Basement car park slab penetrations	Vehicle fire breaching into upper floors	**Every cable, pipe and duct penetration**	**Critical**
Hospital external curtain wall to slab edge	Vertical flame travel up the facade	**Perimeter firestop systems**	**Critical**

THE FOUR STANVAC PRODUCT LINES THAT DELIVER ALL OF THIS

CABLE COATINGS	PANEL FIREPROOFING	FIRESTOPS	FIRE-RATED DOORS
Fire propagation prevention + 240-min circuit survivability. IEC 60332-3 / IEC 60331-21.	2-hr rated sealants, intumescent paint, aerosol coatings. UL 1479 / IS 12458.	Hybrid mineral wool + firestop mortar. 2-hr rated. UL 1479 / ASTM E814.	60–120 min rated; OT, ICU, server, mortuary, manifold rooms.

COMPANION ADVISORY DOCUMENTS — AVAILABLE ON REQUEST

"Hospitals: The Cruelest Fire Geography on Earth" — a one-page perspective on why hospital fires are structurally different.

"What Happens After: The Legal Reality of an Indian Hospital Fire" — a factual note on accountability under BNS 105 and 106.

*Please email **pfp@stanvac.com** to receive these documents.*