



STAIR PRESSURISATION DESCRIPTION/SCOPE - SHUT DOWN SYSTEM

Provide complete stair pressurisation systems, in accordance with AS 1668.1.

All stair pressurisation fans shall be provided with speed controllers.

Stair pressurisation systems shall be activated by Building fire trip signal.

Stair pressurising fans (Supply & Relief) to be controlled by a differential pressure sensor and variable speed drives to maintain a pressure within the stair well of 35Pa (APS) with all doors closed.

Supply fan and relief fan to be electrically interlocked (start and stop at same time).

Should the fire stair door be opened on the fire affected level, the force at the door handle to open the door shall not be more than 110 Newtons.

Should smoke be induced into the stair pressurisation fan air entry, the fan shall be shut down, by a non-latching smoke detector located outside of the air stream.

If smoke clears, the stair pressurising fan shall restart.

The fans shall be started by the hard wired fire signal signal to the MSSB (signal under the fire protection works).

The Control system shall monitor the status of the stair pressurisation fans from the air flow switches used to give indication at the FIP.

Fan Auto/off/test switches at MSSB (s) for to be overridden in fire mode.

All thermal overload protection devices shall be bypassed in fire mode.

All local isolators for smoke control equipment shall be lockable in the 'on' position.

Motorised (fail safe open, 2 position type – open, closed) stair pressurisation control dampers to open on Building fire trip and auto close on fire trip clearance.

DESIGN PARAMATERS

| | |
|-----------------------------|----------------|
| Door Velocity: | 1 m/s |
| Door Size: | 2.1 x 0.9 m |
| Door Leakage: | 100 l/s/door |
| Room/Stair Noise: | 65 dBA/ 80 dBA |
| Max Door Pressure: | 110 N |
| Max Velocity past Sub-Duct: | 9 m/s |