Passive Fire Protection

Compliance & Architectural Specification Checklist — with FAQs

Basis	National Building Construction Standards 2026, SP 7 : 2026 (Fourth Revision), Part F 'Fire and Life Safety'. Supersedes NBC 2016 Part 4. In force from 30-04-2026.
Scope	PFP systems — fire doors, partitions & barriers, external walls & facade, ceilings/floors/roof, M&E penetrations — at 30 / 60 / 120 / 240 min ratings.
Document No.	WIL-PFP-CHK-001 Rev 0
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Contents	1. Definitions & Code Basis | 2. Standards & Certification | 3. Fire Doors | 4. Partitions & Barriers | 5. External Walls & Facade | 6. Ceilings, Floors & Roof | 7. M&E Penetrations | 8. Specs by Rating + Wedge Product Map | 9. Frequently Asked Questions

1. Passive Fire Protection - Compliance & Architectural Specification Checklist

Scope: PFP systems (fire doors, partitions, walls, ceilings, M&E penetrations) at 30-60-120-240 min ratings | Basis: NBCS 2026 (SP 7 : 2026), Part F Fire and Life Safety | Doc No. WIL-PFP-CHK-001 Rev 0 | Issue: 07-06-2026

Topic	Item	Provision (NBCS 2026 Part F)
A. DOCUMENT BASIS		
	Code	National Building Construction Standards 2026, SP 7 : 2026 (Fourth Revision), Part F 'Fire and Life Safety' (243 pages). Supersedes NBC 2016 Part 4. In force from 30-04-2026.
	How to use	Each sheet is a checklist for one PFP system family. Mark Status = Yes / No / N/A per item; compliance % auto-calculates at the bottom of each sheet. Clause references are to Part F.
B. FIRE RESISTANCE - DEFINITION OF RATING CRITERIA (Clause 2.28)		
	Loadbearing capacity / Stability (R)	Ability of a load bearing element to withstand fire exposure without loss of structural stability.
	Integrity (E)	Resistance to penetration of flame and hot gases.
	Insulation (I)	Resistance to temperature rise on the UNEXPOSED face: max 180 deg C at any single point AND average 140 deg C.
	Radiation (W / EW)	Optional criterion for glass in buildings - ability to resist passage of heat (radiated) from one side to the other. For fire curtains: radiated heat measured at 1 m must not exceed 15 kW/m2.
	Smoke control (Sa)	For fire curtain / glazed assemblies: smoke leakage not exceeding 3 m3/m/h at 25 Pa (Clause 4.5.2).
	Key conclusion	Part F fire rating is NOT integrity-only. Fire doors are rated for stability + integrity + insulation (Cl 2.22); exit fire doors need full integrity rating with MINIMUM 30 min insulation (Cl 2.22 Note 2). Firestops must restore integrity AND/OR insulation of the separating element (Cl 2.32). Glazed partitions and curtains carry explicit E / EW / EI / Sa classifications.
C. ACTIVE vs PASSIVE FIRE PROTECTION - POSITION OF THE CODE		
	Code position	Part F mandates BOTH and treats them as complementary; neither replaces the other. Passive protection is the construction baseline: Table 1 fire resistance ratings of structural/non-structural elements apply to every building, with or without active systems.
	Passive is the foundation	Construction Types 1-4 are defined purely by passive fire resistance (Table 1). Compartmentation (Cl 4.5), fire doors, fire walls, firestops and dampers preserve barrier integrity wherever services penetrate (Cl 4.5.1). Exits and firefighting shafts depend on 120 min passive enclosures.
	Active is occupancy-driven	Extinguishers, hose reels, wet/dry risers, yard hydrants, sprinklers, water mist, detection and alarm are prescribed occupancy-wise in Table 7 (Cl 5) and tied to height/area triggers.
	Interaction / trade-offs	Active systems buy relaxations in passive limits, never elimination: sprinklered buildings get far larger compartment areas (e.g. 750 m2 unsprinklered vs 2 000-5 000 m2 sprinklered, Table 6) and increased travel distance (Table 4: e.g. 30 m to 60 m residential); sprinklers within 600 mm of glass facade reduce spandrel demands (Cl 3.5.9.2).
	Practical answer	For life safety and code approval both are mandatory. Passive protection is 'more important' in the sense that it is unconditional (required regardless of active systems), needs no power/water/activation, and is the fallback when active systems fail - but the code itself does not rank one above the other.
D. CONSTRUCTION TYPES (Cl 3.4.1, Table 1)		
	Type 1 / 2 / 3 / 4	Four types by descending fire resistance. Example - exterior bearing wall (<3.7 m separation): Type 1 = 240 min, Type 2 = 120, Type 3 = 120, Type 4 = 60. Fire check doors / fire separation assemblies = 120 min for ALL types.

2. Acceptable Standards, Certification & Testing Requirements

What Part F accepts for passive fire protection compliance | Basis: NBCS 2026 (SP 7 : 2026), Part F Fire and Life Safety | Doc No. WIL-PFP-CHK-001 Rev 0 | Issue: 07-06-2026

Ref in Part F	Standard / Requirement	Title / What it governs	PFP application	Notes
F(1)	IS 3808 : 1979	Method of test for non-combustibility of building materials	Non-combustibility of boards, insulation, ceiling materials	Mandatory where 'non-combustible' is specified (false ceilings, staircase walls, refuse chutes)
F(2)	IS/ISO 834-1 : 1999	Fire resistance tests - elements of building construction: General requirements	ALL fire resistance ratings in Table 1 are determined per this series	This is the governing furnace-test standard family for Part F
F(2)	IS/ISO 834-4 / -5	Specific requirements - load bearing vertical / horizontal separating elements	Load bearing walls, floors	
F(2)	IS/ISO 834-7 / -8	Specific requirements - columns / non-load bearing vertical separating elements	Columns; partitions, non-bearing walls	
F(2)	IS/ISO 834-9 : 2003	Specific requirements - non-load bearing ceiling elements	Fire rated ceilings / membranes	
F(33)	IS 3614 : 2021	Fire doors and doorsets - Specification (first revision)	ALL fire door assemblies (wooden and metal)	Door + frame + hardware tested as an assembly
F(34)	IS 12458 : 2019	Fire resistance of through-penetration firestops - Method of test	Firestop systems for M&E penetrations (cables, trays, conduits, ducts, pipes)	Firestop rating must be >= rating of the wall/floor penetrated
F(35)	IS 18190 : 2023	Fire resistance of perimeter fire barrier joint systems - Method of tests	Slab-edge / facade perimeter joints, linear gap seals	Required for sealing gaps between floor slabs and facade at every level (Cl 3.5.9.2)
F(11)	IS 12777 : 1989	Fire safety - Flame spread of products - Method for classification	Surface lining classes 1-4 for walls, facade and ceilings (Cl 3.5.10)	Class 4 linings heavily restricted
F(12)	IS 1642 : 2013	Fire safety of buildings (general): Details of construction - Code of practice	Construction detailing of fire rated elements	
F(13)	IS 16246 : 2015	Elastomer insulated cables with limited circuit integrity when affected by fire	Fire survival / circuit integrity cabling for life safety systems	Power to fire systems must meet circuit integrity requirement
Note, Cl 3.5.10.6	ISO 3957 / ISO 13785 (Pt 1 & 2)	Facade fire test standards	Aluminium composite panel (ACP) facades	ACP to be avoided; if used, min 70% mineral core + pass these tests - the ONLY non-IS standards explicitly named for PFP
-	EN / BS / ASTM / UL	European, British, American standards	NOT listed as 'accepted standards' in Part F	Part F's List of Standards is exclusively IS and IS/ISO. EN 1634 / BS 476 / ASTM E119 / UL 10C etc. may only be accepted at the discretion of the local Competent Authority / fire service as supporting evidence - do not claim them as code compliance in India
CERTIFICATION & LABELLING REQUIREMENTS (what evidence the AHJ will demand)				
Cl 3.4.2 / Cl 2.29	Validated & certified rating	Fire rating of every structural / non-structural element must be validated and certified against Table 1; only in the ABSENCE of a certified rating may Annex C deemed-to-satisfy tables be used	Test reports per IS/ISO 834 series	

Ref in Part F	Standard / Requirement	Title / What it governs	PFP application	Notes
Cl 2.29 Note 3	Permanent compliance label	Non-structural fire rated materials/assemblies must bear a permanently affixed label of compliance, approved by the Competent Authority based on testing and evaluation; label carries product name, type and manufacturer details	Label on product	
Cl 4.4.2.4.1(f)	Fire door certificate + label	Certificate and label showing manufacturer ID, door type, serial/batch no., month & year of manufacture, fire resistance rating; assembly certified WITH all hardware (hinges, locks, panic bars, closers, viewers)	Certificate + door label	Applies to wooden and metal fire doors alike
Cl 4.5.2.1 / 4.5.2.2	Third-party independent certification	Fire rated fabric curtains and fire rated glazed partition/door assemblies must be tested and certified by a reputed THIRD-PARTY independent certification body for E / EW / EI / Sa	Third-party certificate	Code does not name the body - UL / FM / Certifire / IFC-type bodies used in practice subject to AHJ acceptance
Cl 3.5.7.4.2	Tested & certified dampers	Fire/smoke dampers to be tested and certified for dynamic condition; integrated with fire alarm panel	Damper test certificate	
Table E note	System accreditations + AHJ approval	All 3rd-party product/system accreditations/certifications for specific applications AND approval from local statutory bodies / AHJs must be in place before use	Project approvals file	
Cl 3.1.14	Occupancy certificate	Required before any change in character of occupancy	From local authority	
TESTING LABORATORIES				
-	Code position	Part F does NOT name or prescribe any approved testing laboratory. Compliance is defined by (a) testing to the accepted standards above, (b) certified/validated ratings, and (c) approval of the Competent Authority / local fire service. CSIR-CBRI Roorkee appears only in the drafting committee, not as a mandated lab.		
Industry practice (not in code)	Laboratories used in India	CSIR-CBRI Roorkee (fire resistance furnace tests), NABL-accredited fire labs, and internationally accredited labs (UL, Exova/Element, Warringtonfire, TUV) - acceptance of foreign reports rests with the local AHJ		Verify current NABL scope before contracting tests

3. Fire Doors - Wooden & Metal (Door Assemblies)

Ratings, hardware, seals, certification - integrity AND insulation criteria | Basis: NBCS 2026 (SP 7 : 2026), Part F Fire and Life Safety | Doc No. WIL-PFP-CHK-001 Rev 0 | Issue: 07-06-2026

#	Checklist Item	NBCS Part F Requirement	Clause / Ref	Required Rating (min)	Test / Product Standard	Evidence Required	Status	Remarks
A. RATING & CLASSIFICATION - WOODEN AND METAL FIRE DOORS								
1	Fire door assembly definition	Door + frame + hardware + accessories rated TOGETHER as one assembly for stability, integrity AND insulation; references to 'fire door' always mean the full assembly	Cl 2.22	30/60/120/180/240	IS 3614 : 2021	Assembly test report		
2	Exit fire doors - insulation minimum	Doors in exits: integrity + stability to required rating; minimum INSULATION criterion 30 min	Cl 2.22 N2	Rating + I-30 min	IS 3614 / IS-ISO 834	Test report showing E and I		
3	Fire separation assemblies (fire check doors)	120 min for ALL construction types 1-4	Table 1 (ii)	120	IS 3614	Certificate + label		
4	Openings in fire resistant walls (Types 1-3)	Wall openings limited to 5.6 m2 (max height/width 2.75 m); each protected by fire door of not less than 120 min	Cl 3.5.4.2	120	IS 3614	Door schedule + certs		
B. LOCATION-WISE DOOR RATINGS								
5	Firefighting shaft doors	Shaft (lobby + stair + fireman's lift) is a 120 min enclosure equipped with 120 min fire doors	Cl 2.24	120	IS 3614	Cert + label		
6	Exit staircase access door	Access to fire exit staircase through fire door of minimum 120 min	Cl 4.x (stairways)	120	IS 3614	Cert + label		
7	Horizontal exit door	Through a 120 min fire door in a fire resistant wall; openable from both sides at all times	Cl 2.40 / Annex	120	IS 3614	Cert + hardware check		
8	Pressurized (non-naturally-ventilated) areas	120 min fire doors, particularly at lift lobby and stairwell entrances to prevent flue effect	Cl 4.2.7	120	IS 3614	Cert + label		
9	Lift lobby doors	120 min fire doors at all levels with lobby pressurization 25-30 Pa (or hoistway at 50 Pa)	Table 5 note	120	IS 3614	Cert + pressurization report		
10	Basement access doors	Door openings leading to basement protected with 120 min fire doors	Cl 4.x	120	IS 3614	Cert + label		
11	Boiler room door	Composite door 120 min (boiler room itself 180 min walls)	Cl 3.5.7.x	120	IS 3614	Cert + label		
12	Industrial high-hazard process areas	TWO fire doors each of 180 min between high hazard and other areas	Cl 6.x (G)	180	IS 3614	Cert + label		
13	Hotel guest room doors	Guest rooms / corridors compartmented (60 m segments) with 30 min fire rated doors	Cl 4.5.3.3	30	IS 3614	Cert + label		
14	Refuse chute inspection door	Tight fitting, 60 min	Cl 3.5.4.5	60	IS 3614	Cert		
15	Electrical shaft inspection door	Not less than 120 min, WITH 30 min insulation	Cl 3.5.4.4	120 (E) + 30 (I)	IS 3614	Test report showing E+I		
16	Plumbing shaft inspection door (internal)	Not less than 30 min (no rating needed if opening to wet/naturally ventilated/external areas)	Cl 3.5.4.4	30	IS 3614	Cert		

#	Checklist Item	NBCS Part F Requirement	Clause / Ref	Required Rating (min)	Test / Product Standard	Evidence Required	Status	Remarks
17	Adjoining building / lower-roof openings	Openings protected by fire doors of at least 60 min	Cl 6.x	60	IS 3614	Cert		
C. HARDWARE, SEALS & OPERATION (WOODEN & METAL)								
18	Intumescent seals	Exit fire doors fitted with intumescent seal (or equivalent globally accepted device) that expands on heat to seal gaps and aid INTEGRITY	Cl 2.22 N3	As door	Door assembly test	Seal spec in door cert		
19	Self-closing	Exit fire doors never on hold-open; kept closed; door closer - spring mechanism. Where electromagnetic hold-open used (corridors), release on alarm + coordinator	Cl 2.22 N4 / 6.x	-	-	Site inspection		
20	Panic bar + re-entry handle	Fire exit doors with panic hardware; handle on opposite side at re-entry floors	Cl 2.22 N6 / 4.2.1	-	-	Site inspection		
21	Swing direction	Exit doors open in direction of egress; must not reduce landing width by more than half; no overhead/sliding doors in exits	Cl 4.2.9	-	-	Site inspection		
22	Access-controlled doors	Fire rating as per location; unlock on sprinkler/detection activation and on power loss; 'PUSH TO EXIT' manual release	Cl 4.4.2.4.1(g)	As location	-	Cause & effect test		
23	Metal sliding fire doors	Compartmentation Type E: masonry construction with fire rated METAL sliding door	Cl 4.5.2	As compartment	IS 3614	Cert		
24	Certification & labels	Certificate + prominent label: manufacturer, door type, serial/batch, month/year, fire rating; certified WITH all hardware	Cl 4.4.2.4.1(f)	-	IS 3614	Label photo + certificate		
25	Metro/special buildings doors	Non-combustible construction; self-closer of same fire rating; double-door openings each capable of closing opening	Annex H-6.5	As required	IS 3614	Cert		

Compliance summary (fill on completion): Items complying (Yes) _____ Items not complying (No) _____ Not applicable (N/A) _____ Compliance % of applicable _____ % | Mark Status = Yes / No / N/A against each item.

4. Internal Partitions, Fire Barriers, Glazed Partitions & Fire Curtains

Compartmentation Types A-E with E / EW / EI / Sa criteria | Basis: NBCS 2026 (SP 7 : 2026), Part F Fire and Life Safety | Doc No. WIL-PFP-CHK-001 Rev 0 | Issue: 07-06-2026

#	Checklist Item	NBCS Part F Requirement	Clause / Ref	Required Rating (min)	Test / Product Standard	Evidence Required	Status	Remarks
A. COMPARTMENTATION CONSTRUCTION TYPES (Cl 4.5.2)								
1	Type A - Masonry + fire rated door assembly	Masonry fire barrier with fire rated door assembly protecting openings	Cl 4.5.2(a)	Per Table 1/6	IS/ISO 834	Test/Annex C basis		
2	Type B - Fire rated fabric drop-down curtain	Type 1: E-120 + EW-60 + Sa; Type 2: E-120 + EW-120 + Sa; Type 3: E + EW-120 + EI-60 + Sa. Curtains NOT allowed as fire exits - independent fire door required within travel distance	Cl 4.5.2.1 / 2.22 N5	E-120; EI up to 60	Third-party certified	3rd-party certificate		
3	Type C - Fire rated glazed partition + door	Type 1: E-120 + EW-120 + EI-30 + Sa; Type 2: E-120 + EW-120 + EI-60 + Sa	Cl 4.5.2.2	E-120 + EI-30/60	Third-party certified	3rd-party certificate		
4	Type D - Gypsum / cementitious board assembly	Fire rated board partition assembly (board systems per tested design)	Cl 4.5.2(d)	Per design 30-240	IS/ISO 834-8	Tested system report		
5	Type E - Masonry + metal sliding door	Masonry construction with fire rated metal sliding door	Cl 4.5.2(e)	Per Table 6	IS 3614	Cert		
B. PERFORMANCE CRITERIA FOR BARRIER ASSEMBLIES (Cl 4.5.2)								
6	Integrity (E)	Withstand up to 1050 deg C fire-side, resist passage of flames/hot gases for 120 min	Cl 4.5.2	120	Furnace test	Test report		
7	Radiation (EW)	Radiated heat at 1 m not exceeding 15 kW/m2	Cl 4.5.2	60/120	Furnace test	Test report		
8	Insulation (EI)	Unexposed-face temperature rise not exceeding 140 deg C above ambient	Cl 4.5.2	30/60	Furnace test	Test report		
9	Smoke (Sa)	Smoke leakage not exceeding 3 m3/m/h at 25 Pa	Cl 4.5.2	-	Smoke leakage test	Test report		
C. WHERE FIRE RATED PARTITIONS / WALLS ARE REQUIRED								
10	Floor compartment sizes	Compartment areas per Table 6 by occupancy; sprinklered buildings get far larger areas (750 m2 vs 2 000-5 000 m2); barrier type A-E as Table 6 col 5	Cl 4.5.3 / Table 6	Per Table 6	-	Compartment drawing		
11	Critical utility rooms	Electrical, server, UPS, battery, lift machine, IT/MDF/IDF/MCR, telecom, janitor, chemical store rooms: 2 h (120 min) rated enclosure on ALL sides, ANY size	Cl 4.5.3.2	120	IS/ISO 834	Room schedule		
12	Live cooking areas	All live-cooking areas (hotels, food courts, commercial kitchens, cafeterias) segregated by 120 min fire rated construction	Cl 4.5.3.6	120	IS/ISO 834	Layout + specs		
13	Hotel guest corridors	Guest rooms/corridors/banquets compartmented every 60 m with 30 min doors	Cl 4.5.3.3	Barrier + 30 door	-	Layout		
14	Tenant separation	Vertical separation between adjacent tenant spaces: 60 min (all types)	Table 1 (v)	60	IS/ISO 834	Test/Annex C basis		
15	Dwelling unit separation	Load bearing 120/120/60/60; non-load bearing 60/60/30/30 (Types 1-4)	Table 1 (vi)	30-120	IS/ISO 834	Test/Annex C basis		

#	Checklist Item	NBCS Part F Requirement	Clause / Ref	Required Rating (min)	Test / Product Standard	Evidence Required	Status	Remarks
16	Staircase enclosure walls	Brickwork / RCC / equivalent, minimum 120 min	Cl 3.4.1	120	IS/ISO 834	Spec		
17	Fire command centre	120 min rated walls with fire door; no flammable interior finishes	Cl 3.5.11(b)	120	IS/ISO 834	Spec		
18	Fire wall (separating wall)	Continuous foundation to roof (+1 m above combustible roof); structural stability such that collapse either side does not collapse the wall	Cl 2.34	Per occupancy	IS/ISO 834	Structural + fire design		
19	Hazardous industrial segregation	High hazard (petrochemical, explosives) areas: 240 min; admin/canteen segregation from industrial: 120 min	Cl 6.x (G)	120 / 240	IS/ISO 834	Specs + certs		
20	Basement fire pump room	120 min fire resistance rated room; access via 120 min integrity passageway from firefighting shaft	Cl 5.x	120	IS/ISO 834	Layout		
21	Folding partitions	Doors in folding partitions NOT an approved means of egress	Cl 4.4.2.4.1(j)	-	-	Layout check		

Compliance summary (fill on completion): Items complying (Yes) _____ Items not complying (No) _____ Not applicable (N/A) _____ Compliance % of applicable _____ % | Mark Status = Yes / No / N/A against each item.

5. External Walls, Glass Facade, Spandrels & Cladding

Ratings by fire separation distance + facade-specific passive measures | Basis: NBCS 2026 (SP 7 : 2026), Part F Fire and Life Safety | Doc No. WIL-PFP-CHK-001 Rev 0 | Issue: 07-06-2026

#	Checklist Item	NBCS Part F Requirement	Clause / Ref	Required Rating (min)	Test / Product Standard	Evidence Required	Status	Remarks
A. EXTERNAL WALL FIRE RESISTANCE (Table 1, by fire separation distance)								
1	Bearing exterior wall, separation < 3.7 m	Type 1: 240 | Type 2: 120 | Type 3: 120 | Type 4: 60	Table 1 (i)(a)	60-240	IS/ISO 834-4	Test/Annex C basis		
2	Non-bearing exterior wall, separation < 3.7 m	Type 1: 120 | Type 2: 90 | Type 3: 60 | Type 4: 60	Table 1 (i)(a)	60-120	IS/ISO 834-8	Test/Annex C basis		
3	Bearing exterior wall, separation 3.7-9 m	Type 1: 240 | Type 2: 120 | Type 3: 120 | Type 4: 60 (non-bearing 90/60/60/60)	Table 1 (i)(b)	60-240	IS/ISO 834	Test/Annex C basis		
4	Exterior wall, separation >= 9 m	Bearing 240/120/120/60; non-bearing 60 all types	Table 1 (i)(c)	60-240	IS/ISO 834	Test/Annex C basis		
5	Fire separation distance	Measured external wall to external wall of adjacent building / opposite street side to prevent spread	Cl 2.31	-	-	Site plan		
B. GLASS FACADE & CURTAIN WALL (Cl 3.5.9.2)								
6	Sprinkler protection at glass facade	Sprinklers within 600 mm of the glass facade giving full coverage	Cl 3.5.9.2(a)	-	IS 15105	Sprinkler layout		
7	Spandrel panel	Where fire separation < 9 m: minimum 900 mm spandrel of 1 h (60 min) fire resistance at each floor	Cl 3.5.9.2(a)	60	IS/ISO 834	Facade section drawing		
8	Glass facade rating (other buildings)	Per Table 1 external wall requirements	Cl 3.5.9.2 Note	Per Table 1	IS/ISO 834	Test report		
9	Perimeter (slab-edge) fire sealing	ALL gaps between floor slabs and facade assembly sealed at every level by approved fire-resistant sealing (perimeter fire barrier joint system)	Cl 3.5.9.2(b)	Same as floor	IS 18190 : 2023	Tested joint system report		
C. CLADDING & SURFACE FINISHES								
10	ACP / metal composite cladding	Aluminium composite panels to be AVOIDED as external facade; if used: minimum 70% mineral core AND pass ISO 3957 / ISO 13785 (Pt 1 & 2)	Cl 3.5.10.6	-	ISO 3957 / ISO 13785	Core spec + facade test report		
11	Surface flame-spread class	Wall/facade/ceiling finishes classified per flame spread classes; combustible finishes restricted (Cl 3.5.10); both faces of combustible linings must meet class	Cl 3.5.10 / IS 12777	-	IS 12777	Material classification certs		
12	Openable panels in facade	Openable panels each floor, max 10 m apart, operable 1.2-1.5 m from floor, marked 'FIRE OPENABLE PANEL'	Cl 3.5.9.x	-	-	Facade drawing		
13	External wall constructions (deemed-to-satisfy)	Annex C Tables 17-20: e.g. framed non-load-bearing external wall lined with 13 mm sanded gypsum plaster on metal lath = 60 min; aerated concrete blocks 50-100 mm = 30-240 min; clay bricks 75-100 mm = 30-240 min	Annex C T17-T20	30-240	Annex C	Spec per Annex C		

Compliance summary (fill on completion): Items complying (Yes) _____ Items not complying (No) _____ Not applicable (N/A) _____ Compliance % of applicable _____ % | Mark Status = Yes / No / N/A against each item.

6. Ceilings, Floors, Roof & Structural Frame Protection

Non-combustibility, membrane ratings, structural fireproofing | Basis: NBCS 2026 (SP 7 : 2026), Part F Fire and Life Safety | Doc No. WIL-PFP-CHK-001 Rev 0 | Issue: 07-06-2026

#	Checklist Item	NBCS Part F Requirement	Clause / Ref	Required Rating (min)	Test / Product Standard	Evidence Required	Status	Remarks
A. CEILINGS								
1	False ceiling material	False ceiling INCLUDING all suspension fixtures must be non-combustible; must prevent spread of fire across ceiling	Cl 3.4.4	-	IS 3808	Material certs		
2	Fire rated ceiling membranes	Ceiling elements contributing to fire resistance tested as non-load-bearing ceiling elements	Cl 3.4.x	Per design	IS/ISO 834-9	Test report		
3	Ceiling lining classes	Class 4 (untreated wood fibreboard etc.) only with fire-retardant treatment, ceiling >= 2.4 m above floor; NOT in kitchens, corridors, staircases; NOT in return-air plenums	Cl 3.5.10.4	-	IS 12777	Material certs		
4	Concealed cavities	Combustible linings must meet class on BOTH faces - fire can spread unseen in cavities	Cl 3.5.10.5	-	IS 12777	Detail drawings		
B. FLOORS & VERTICAL OPENINGS								
5	Floor construction	Type 1: 120 | Type 2: 90 | Type 3: 60 | Type 4: 60	Table 1 (ix)	60-120	IS/ISO 834-5	Test/Annex C basis		
6	Floor openings	Protected by vertical enclosures above and below of >= 120 min; openings protected per Cl 3.5.4.6	Cl 3.5.4.2	120	IS/ISO 834	Enclosure drawings		
7	Escalator openings	Smoke barrier (450-600 mm drop) creating smoke compartment + sprinklers on all sides of cut-out each floor	Cl 3.5.4.2 / Fig 5	-	-	Drawing + sprinkler layout		
8	Machinery/goods openings	Removable covers with same strength and fire resistance as the floor	Cl 3.5.4.4 Note	Same as floor	-	Spec		
C. ROOF & STRUCTURAL FRAME								
9	Roof construction	<= 5 m to lowest member: 120/90/60/60; 5-6.7 m: 60 all; >= 6.7 m: 0 (but 60 when services/cables run at high level, e.g. airports)	Table 1 (x)	0-120	IS/ISO 834	Test/Annex C basis		
10	Interior bearing walls / columns / beams	Supporting >1 floor: 240/120/120/120; one floor: 180/90/60/60; roof only: 180/90/60/60	Table 1 (vii)	60-240	IS/ISO 834-7	Test/Annex C basis		
11	Structural steel protection	Load bearing steel beams/columns of buildings >= 500 m2 covered area must be protected against collapse - fire resistance rated materials + suppression (Annex C Tables 25-26 give protection thicknesses)	Cl 3.4.3	Per Table 1	IS/ISO 834-7	Fireproofing spec + test		
12	Walls supporting structural members	180/90/60/60 (Types 1-4)	Table 1 (viii)	60-180	IS/ISO 834	Test/Annex C basis		

Compliance summary (fill on completion): Items complying (Yes) _____ Items not complying (No) _____ Not applicable (N/A) _____ Compliance % of applicable _____ % | Mark Status = Yes / No / N/A against each item.

7. Mechanical & Electrical Services - Shafts, Firestops, Dampers, Cables

Restoring barrier integrity and insulation at every service penetration | Basis: NBCS 2026 (SP 7 : 2026), Part F Fire and Life Safety | Doc No. WIL-PFP-CHK-001 Rev 0 | Issue: 07-06-2026

#	Checklist Item	NBCS Part F Requirement	Clause / Ref	Required Rating (min)	Test / Product Standard	Evidence Required	Status	Remarks
A. SERVICE SHAFTS & DUCTS (Cl 3.5.4.4)								
1	Service shafts/ducts (cables, wiring, telephone, plumbing)	Enclosed in ducts/shafts of fire resistance NOT less than 120 min	Cl 3.5.4.4	120	IS/ISO 834	Shaft schedule		
2	Electrical shaft inspection doors	Not less than 120 min WITH 30 min insulation	Cl 3.5.4.4	120 (E) + 30 (I)	IS 3614	Door cert		
3	Plumbing shaft inspection doors	30 min (internal); no rating if opening to wet/ventilated/external areas	Cl 3.5.4.4	30	IS 3614	Door cert		
4	Dedicated electrical shaft	Distribution cables in a SEPARATE shaft, sealed at every floor with fire stop = floor rating; no water/gas/telephone lines in electrical duct; bus ducts preferred	Cl 3.5.5.1	Same as floor	IS 12458	Shaft sealing records		
B. FIRESTOPS & PENETRATION SEALS								
5	Fire stop rating	Fire stop material/construction rating NOT less than the fire separating element; installed in concealed spaces and between structural elements	Cl 2.32	Same as element (up to 240)	IS 12458 : 2019	Tested system + installation record		
6	Through-penetration firestop systems	Combination of firestop + penetrant (cables, trays, conduits, ducts, pipes) + support, restoring INTEGRITY and/or INSULATION of the element; installed within tested design limits	Cl 2.32 N1	Same as element	IS 12458	System selection vs tested design		
7	Linear joint seals	Movement-capable firestop for linear joints between separating elements; within tested limits for joint size, assembly, compression/extension	Cl 2.32 N2	Same as element	IS 12458 / IS 18190	Tested system		
8	Cable/conduit wall gaps	Space between cables/conduits and walls/slabs filled with fire stop material >= 120 min (excl. low-voltage service shafts)	Cl 3.5.4.4	120	IS 12458	Installation records		
C. HVAC - DUCTS & DAMPERS (Cl 3.5.7)								
9	Ducts crossing floors/compartments	Masonry shaft with fire damper at connections OR fire rated ductwork with fire dampers at floor crossings; smoke-management ducts crossing without dampers need 120 min rated ductwork	Cl 3.5.7.2.2 / 3.5.7.3	120	Tested duct/damper	Duct/damper schedule		
10	Ducting within compartment	Minimum 30 min fire resistance	Cl 3.5.7.3.4	30	-	Spec		
11	Fire dampers - location	In supply, fresh and return air ducts/passages at all fire walls and floor crossings (unless duct serves fire-safety operation - then maintain duct integrity instead)	Cl 3.5.7.4.1	Same as barrier	Tested & certified	Damper schedule		
12	Fire dampers - type & integration	Motorized or fusible-link; installed to give COMPLETE compartment integrity with all passive sealing; accessible for maintenance/test/replacement; integrated and sequenced with fire alarm panel; certified for DYNAMIC condition	Cl 3.5.7.4.2	-	Dynamic-tested	Damper certs + C&E test		

#	Checklist Item	NBCS Part F Requirement	Clause / Ref	Required Rating (min)	Test / Product Standard	Evidence Required	Status	Remarks
13	Access panels for dampers	Provided in ducts/ceilings to access and maintain dampers	Cl 3.5.7.x	-	-	Drawings		
D. ELECTRICAL FIRE SAFETY								
14	Wiring in shafts / false ceilings	Flame retardant wiring; medium/low voltage in METAL conduit; 230 V wiring above false ceiling: 660 V grade insulation; HV/MV/LV in separate shafts/conduits	Cl 3.5.5.1	-	IS 1646	Electrical specs		
15	Circuit integrity (fire survival) cables	Power supply cabling to fire/life-safety systems meets circuit integrity requirement; alternatively fire-rated enclosures (tested and certified) or routing through adjoining fire compartment	Cl 3.5.5.2 / F(13)	Per system duration	IS 16246 : 2015	Cable certs		
16	Electrical substation/transformer rooms	120 min fire resistance rated walls and doors (substation opening incl. doors 120 min)	Cl 3.5.6.x	120	IS/ISO 834	Room schedule		
17	Boiler room	180 min rated room; entry via 120 min composite door; ventilation accepted at 120 min	Cl 3.5.7.x	180 / 120	IS/ISO 834	Room schedule		

Compliance summary (fill on completion): Items complying (Yes) _____ Items not complying (No) _____ Not applicable (N/A) _____ Compliance % of applicable _____ % | Mark Status = Yes / No / N/A against each item.

8. Architectural Specifications by Fire Rating - with Wedge Industries Product Mapping

Deemed-to-satisfy constructions (Part F Annex C) and certified Wedge product options per rating | Basis: NBCS 2026 (SP 7 : 2026), Part F Fire and Life Safety | Doc No. WIL-PFP-CHK-001 Rev 0 | Issue: 07-06-2026

PFP System	30 min	60 min	120 min	240 min	Source / Test Std	Wedge Industries product options (internal)	Notes
Fire door assembly - wooden	WFD30 type: HDRW850 10 mm core + 4 mm ply faces + INTUF seals	WFD60: FP1000 9 mm or HDRW850 10 mm or MgO 8-10 mm core + 18 mm ply + INTUF	WFD120: HDRW850 5 mm faces + rockwool 20-25 mm + FP120 9-12 mm boards + INTUF	Specialist doorset - tested to IS 3614 (FD240)	IS 3614 : 2021	Wedge WFD30/60/90/120 door designs; FP1000, FP900, HDRW850, WedgeMAG cores; INTUF10/14/20 seals	Always specify board grade AND intumescent seal grade together
Fire door - metal / sliding	Steel doorset per IS 3614	Steel doorset per IS 3614	Steel doorset, 120 min (Type E compartmentation)	WedgeSCB steel composite board doors (240 min, blast + hydrocarbon rated)	IS 3614 / BS 476-22*	WedgeSCB 6 / SCB 9.5 (240 min); FP1000 infill	*BS data supporting only - AHJ acceptance needed
Intumescent door/frame seals	INTUF strips 30 min config	INTUF strips 60 min config	INTUF strips 120 min config (fire+smoke variants)	INTUF102B grille material (240 min systems by design)	Assembly test with door	INTUF10 / INTUF14 / INTUF20 flexible; INTUR rigid PVC; activation 180-280 deg C, expansion up to 30:1	Fire ratings 30/60/90/120 min per catalog
Masonry wall (clay brick, non-bearing)	75 mm	75 mm (90 mm hollow)	100 mm	170 mm	Annex C Table 13/14	-	Thickness excluding finish; 13 mm LW gypsum plaster reduces requirement
RCC wall (load bearing, >=1% vert. reinf.)	-	120 mm (25 mm cover)	160 mm (25 mm cover)	240 mm (25 mm cover)	Annex C Table 13	-	90 min = 140 mm
Aerated/lightweight concrete block wall	50 mm (non-bearing)	63 mm	75-100 mm	100-150 mm	Annex C Table 13	-	
Board partition (framed, non-load bearing)	1 layer 12.7 mm plasterboard, taped/filled	2 layers plasterboard total 19-25 mm/face OR 12.7 mm + 13 mm gypsum plaster	Metal lath + 25 mm LW gypsum plaster (timber frame); tested board systems	Tested system (e.g. calcium silicate twin-layer)	Annex C Table 16 / IS-ISO 834-8	FP1000 / FP900 (240 min @ 9-10 mm in tested assemblies); SP1150 (120 min); WedgeMAG MgO (240 min, A1); WedgeMagSil vermiculite (240 min, A1); HDSP450 sandwich panel	Use tested system data, not board alone
Glazed fire partition	EI-30 system (Type 1: E120/EW120/EI30/Sa)	EI-60 system (Type 2: E120/EW120/EI60/Sa)	E-120 baseline both types	-	Cl 4.5.2.2, 3rd-party cert	- (trading opportunity: certified glazed systems)	Must be third-party certified as assembly

PFP System	30 min	60 min	120 min	240 min	Source / Test Std	Wedge Industries product options (internal)	Notes
Fire curtain (fabric)	-	EW-60 (Type 1) / EI-60 (Type 3)	E-120 all types; EW-120 Types 2-3	-	Cl 4.5.2.1, 3rd-party cert	AlSi silica cloths / WSC600 (component fabrics)	Not permitted as exits
External wall / spandrel	Aerated block 50 mm; brick 75 mm	900 mm spandrel of 60 min at glass facade (<9 m separation); brick 75 mm	Brick 90 mm; block 63-75 mm + plaster	Brick 100 mm; block 100 mm; lined steel frame systems (Annex C T19)	Cl 3.5.9.2 / Annex C T17-20	FP1000 / WedgeMAG / WedgeMagSil spandrel boards; WedgeMW mineral wool (A1) cavity infill 48 kg/m3 50 mm	Perimeter joints sealed per IS 18190
Ceiling / membrane	Non-combustible false ceiling (all cases)	HDRW850 5 mm (60 min)	HDRW850 10 mm (120 min); SP1150 (120 min)	FP1000 10 mm (240 min); WedgeMAG (240 min)	IS/ISO 834-9 / IS 3808	HDRW850, FP1000, SP1150, WedgeMagSil; WedgeSPP1650 (acoustic, non-fire)	Suspension fixtures also no n-combustible (Cl 3.4.4)
Structural steel protection	Sprayed/board protection per Annex C T25-26	Board/spray thickness per Annex C	Board/spray thickness per Annex C	Solid concrete encasement or rated board systems	Cl 3.4.3 / Annex C T25-26	HSI 1100/1200 wollastonite boards; WedgeVC vermiculite boards; FSMP microporous; WedGel WJ400 coating (supplementary)	Mandatory for steel buildings >= 500 m2
Penetration firestop (M&E)	30 min (plumbing shaft doors etc.)	60 min systems	120 min (shaft sealing, cable penetrations)	240 min (high-hazard compartment walls)	IS 12458 : 2019	Fire stop sealants/boards range; RIMB millboards; AlSi ropes & tapes (HTI range, up to 240 min fire protection); WedgeLMW loose wool packing	Rating must equal the element penetrated
Perimeter / linear joint seal	-	60 min joints	120 min slab-edge joints	240 min joints (tested)	IS 18190 : 2023	WedgeMW high-density mineral wool + sealant systems	Every slab-to-facade gap, every level
Air transfer grille (doors/walls)	Per system	Per system	Per system	INTUF102B intumescent grille (17:1 expansion, 180 deg C activation)	Assembly test	Wedge INTUF102B	For timber fire doors and glazing

NOTE: Annex C values are deemed-to-satisfy fallbacks usable only in the ABSENCE of a validated/certified rating (Cl 3.4.2 / C-1). Certified test reports per IS/ISO 834, IS 3614, IS 12458, IS 18190 always take precedence. Wedge product mapping is internal sales guidance - confirm project-specific certification before quoting compliance.

9. Frequently Asked Questions (FAQs)

Answers are based on NBCS 2026 (SP 7 : 2026), Part F 'Fire and Life Safety', and the Wedge Industries Limited product catalog. Clause references are to Part F.

A. The Code & Its Basis

Q. What is NBCS 2026 and does it replace NBC 2016?

Yes. The National Building Construction Standards 2026 (SP 7 : 2026, Fourth Revision) is in force from 30-04-2026. Its Part F 'Fire and Life Safety' (243 pages) supersedes NBC 2016 Part 4. All new fire and life safety compliance in India should now reference Part F clause numbers.

Q. Which fire ratings does this checklist cover?

The standard rating bands used throughout Part F: 30, 60, 120 and 240 minutes (with 90 and 180 min appearing for specific elements such as boiler rooms and high-hazard industrial doors). Construction Types 1–4 (Table 1) set the baseline rating of every structural and non-structural element.

Q. Is passive or active fire protection more important under the code?

Part F mandates BOTH and treats them as complementary. Passive protection is unconditional — Table 1 fire resistance ratings apply to every building with or without sprinklers, need no power, water or activation, and are the fallback when active systems fail. Active systems (Table 7) are occupancy-driven and can buy relaxations in passive limits (larger compartments, longer travel distances) but never their elimination.

B. Ratings & Performance Criteria

Q. What do R, E, I, W/EW and Sa mean?

R = loadbearing capacity/stability; E = integrity (resistance to passage of flame and hot gases); I = insulation (unexposed-face temperature limited to max 180 deg C at any point and 140 deg C average); W/EW = radiation control (for fire curtains, radiated heat at 1 m must not exceed 15 kW/m2); Sa = smoke control (leakage not exceeding 3 m3/m/h at 25 Pa). All per Clause 2.28 and 4.5.2.

Q. Is a Part F fire rating integrity-only?

No. Fire doors are rated for stability + integrity + insulation as one assembly (Cl 2.22), and exit fire doors must additionally achieve a minimum 30 min insulation criterion (Cl 2.22 Note 2). Firestops must restore integrity AND/OR insulation of the element penetrated (Cl 2.32). Glazed partitions and fire curtains carry explicit E / EW / EI / Sa classifications.

Q. What rating do fire doors need at staircases, lift lobbies and shafts?

120 min is the workhorse rating: firefighting shaft doors (Cl 2.24), exit staircase access doors, horizontal exit doors, lift lobby doors, basement access doors, pressurized-area doors and fire check doors in all construction Types 1–4 (Table 1). Exceptions include hotel guest room doors (30 min), refuse chute inspection doors (60 min), plumbing shaft doors (30 min) and high-hazard industrial separations (two doors of 180 min each). Electrical shaft inspection doors need 120 min integrity PLUS 30 min insulation (Cl 3.5.4.4).

Q. When can Annex C 'deemed-to-satisfy' constructions be used?

Only in the ABSENCE of a validated and certified rating (Cl 3.4.2 / C-1). Certified test reports per IS/ISO 834, IS 3614, IS 12458 and IS 18190 always take precedence over Annex C tabulated values.

C. Standards, Testing & Certification

Q. Which test standards does Part F accept for PFP?

The List of Standards is exclusively IS and IS/ISO: IS/ISO 834 series (fire resistance of all elements), IS 3614 : 2021 (fire doorsets), IS 12458 : 2019 (through-penetration firestops), IS 18190 : 2023 (perimeter fire barrier joints), IS 3808 (non-combustibility), IS 12777 (flame spread), IS 1642 (construction detailing) and IS 16246 : 2015 (circuit-integrity cables). The only non-IS standards named are ISO 3957 / ISO 13785 for ACP facades.

Q. Are EN, BS, ASTM or UL test reports acceptable?

Not as code compliance. They may only be accepted at the discretion of the local Competent Authority / fire service as supporting evidence. Do not claim EN 1634, BS 476, ASTM E119 or UL 10C as NBCS compliance in India — quote IS/ISO test evidence first.

Q. Does the code name an approved testing laboratory?

No. Part F defines compliance by testing to the accepted standards, certified/validated ratings, and Competent Authority approval. In practice, CSIR-CBRI Roorkee and NABL-accredited fire labs are used; acceptance of foreign lab reports (UL, Element, Warringtonfire, TUV) rests with the local AHJ. Verify current NABL scope before contracting tests.

Q. What labelling and certification will the AHJ demand?

Three layers: (1) every fire rated element validated and certified against Table 1 (Cl 3.4.2); (2) a permanently affixed compliance label on non-structural fire rated products, approved by the Competent Authority, carrying product name, type and manufacturer (Cl 2.29 Note 3); (3) for fire doors, a certificate plus label showing manufacturer ID, door type, serial/batch number, month and year of manufacture, and fire rating — certified WITH all hardware fitted (Cl 4.4.2.4.1(f)).

Q. Do glazed partitions and fire curtains need third-party certification?

Yes. Fire rated fabric curtains and glazed partition/door assemblies must be tested and certified by a reputed THIRD-PARTY independent certification body for the required E / EW / EI / Sa performance (Cl 4.5.2.1 / 4.5.2.2). The code does not name the body — UL / FM / Certifire-type bodies are used in practice, subject to AHJ acceptance.

D. Design & Installation

Q. Can a fire curtain be used as a fire exit?

No. Drop-down fabric fire curtains (compartmentation Type B) are NOT permitted as fire exits — an independent fire door must be provided within the travel distance (Cl 2.22 Note 5 / 4.5.2.1).

Q. Are intumescent seals mandatory on fire doors?

Yes, for exit fire doors: an intumescent seal (or equivalent globally accepted device) that expands on heat to seal gaps and maintain integrity (Cl 2.22 Note 3). Doors must also be self-closing and never on hold-open, unless an electromagnetic hold-open releases on alarm (Cl 2.22 Note 4). Always specify the board grade AND the intumescent seal grade together.

Q. What is the rule for firestop ratings at M&E penetrations?

The firestop rating must NOT be less than the fire separating element it penetrates (Cl 2.32 / IS 12458). Gaps around cables and conduits in walls/slabs must be filled with fire stop material of at least 120 min (Cl 3.5.4.4), and systems must be installed within the limits of their tested design.

Q. What does Part F require at glass facades?

Where fire separation is under 9 m: sprinklers within 600 mm of the glass giving full coverage, plus a minimum 900 mm spandrel of 60 min fire resistance at each floor (Cl 3.5.9.2(a)). ALL gaps between floor slabs and the facade must be sealed at every level with a tested perimeter fire barrier joint system per IS 18190 : 2023 (Cl 3.5.9.2(b)). Openable panels are required each floor, max 10 m apart, marked 'FIRE OPENABLE PANEL'.

Q. Can aluminium composite panels (ACP) be used on facades?

Part F says ACP is to be AVOIDED as external facade. If used, the panels must have a minimum 70% mineral core AND pass ISO 3957 / ISO 13785 (Parts 1 & 2) facade fire tests (Cl 3.5.10.6).

Q. When is structural steel fire protection mandatory?

Load bearing steel beams and columns of buildings with 500 m2 or more covered area must be protected against collapse using fire resistance rated materials (Cl 3.4.3). Protection thicknesses are given in Annex C Tables 25–26; ratings follow Table 1 (up to 240 min for elements supporting more than one floor in Type 1 construction).

Q. What are the rules for false ceilings?

The false ceiling INCLUDING all suspension fixtures must be non-combustible (IS 3808) and must prevent fire spread across the ceiling (Cl 3.4.4). Class 4 linings are heavily restricted and never permitted in kitchens, corridors, staircases or return-air plenums. Combustible linings must meet their flame-spread class on BOTH faces — fire can spread unseen inside cavities.

Q. Which rooms need a 120 min enclosure regardless of size?

Critical utility rooms: electrical, server, UPS, battery, lift machine, IT/MDF/IDF/MCR, telecom, janitor and chemical store rooms need 2 h (120 min) rated enclosure on all sides at ANY size (Cl 4.5.3.2). Live cooking areas also need 120 min segregation (Cl 4.5.3.6); boiler rooms need 180 min walls with a 120 min composite door.

E. Wedge Industries Product Mapping

Q. Which Wedge Industries products serve each rating band?

Fire doors: WFD30/60/90/120 designs using FP1000, FP900, HDRW850 or WedgeMAG cores with INTUF seals; 240 min metal doors via WedgeSCB steel composite boards. Partitions: FP1000/FP900 (240 min in tested assemblies), SP1150 (120 min), WedgeMAG MgO and WedgeMagSil vermiculite (240 min, A1). Structural steel: HSI 1100/1200 wollastonite, WedgeVC vermiculite, FSMP microporous boards, WedGel WJ400 coating (supplementary). Penetrations: firestop sealants/boards, RIMB millboards, AlSi ropes/tapes (HTI range), WedgeLMW loose wool. Perimeter joints: WedgeMW high-density mineral wool + sealant systems. Full mapping is in Section 8.

Q. Can Wedge quote 'code compliance' on the product alone?

No — and this is a key sales discipline. Part F rates SYSTEMS, not boards: door assemblies with hardware, tested partition build-ups, firestop systems within tested design limits. The Wedge product map in Section 8 is internal sales guidance; always confirm project-specific certification (IS/ISO 834, IS 3614, IS 12458, IS 18190 test evidence) before claiming compliance in a quotation. BS 476 data (e.g. WedgeSCB) is supporting evidence only, subject to AHJ acceptance.

Disclaimer: This checklist and FAQ set is a working aid prepared by Wedge Industries Limited from NBCS 2026 (SP 7 : 2026) Part F. It does not replace the code text or the decisions of the local Competent Authority / AHJ. Verify clause text against the published standard for statutory submissions.