Technical Bulletin

KNAUF NEW FIRE-RATED PLASTERBOARD PRODUCTS

The purpose of this Technical Bulletin is to assist Knauf's customers understand the technical requirements of specifying and installing the below new fire-rated products in various systems.

Refer to this document for the latest information on Fire Resistance Level performance of Knauf's plasterboard systems.

Testing of our fire-rated products and other Systems continues and we will provide further information on technical requirements at the earliest opportunity.

Customers are advised to continue to specify and/or order fire-rated products for your projects as per normal. Knauf will substitute new fire-rated products according to product availability.

Systems

- Steel Stud Wall
- Shaftwall®
- Ventshaft™
- IntRwall®
- Partiwall®
- Timber Stud Wall
- OutRwall® - Timber
- OutRwall® - Steel
- Column and Beam Protection

- Floor/Ceiling, Roof/Ceiling
- Fire Tunnel
- Spanning Ceiling
- Horizontal Shaftwall
- FireClad®
- Brick Veneer - Timber
- Brick Veneer - Steel
- Masonry Wall FRL upgrade

Product Range

Standard Stocked

- 13mm Firestop®
- 16mm Firestop®
- 16mm Fire Wetstop™
- 25mm Shaftliner™ Mouldstop

Wall and Specialty Systems

- The above fire-rated products have been tested and assessed by BRANZ to achieve the Fire Resistance Level (FRL) as indicated in Table 2-12. Refer to this document for FRL specifications only.

- Table 2-12 are applicable to all variants of 13mm and 16mm Firestop® (Fire Wetstop™) products as listed above. All Firestop plasterboard products of the same thickness achieve the same Fire Resistance Level (FRL) and interchangeable from a fire-rating performance perspective. Firestop (Fire Wetstop) may be substituted with Multistop™ plasterboard range of equivalent thickness and attributes.

- For acoustic performance of wall Systems, refer to Systems+ for systems lined with Firestop/MultiStop products.

- The installation details of steel-stud wall systems with the new fire-rated products have NOT changed. Refer to Knauf Systems+ and technical manuals for installation details.

- Existing Knauf fire-rated product (e.g. Firestop manufactured up to 2021) may be used in conjunction with the new fire-rated products. However, refer to Table 2-12 for systems requirements and Fire Resistance Level.

- **13mm and 16mm Firestop are NOT to be used in wet area applications.** Refer Table 1 for product performance attributes or contact Knauf for further information.

Product	Performance Attributes				
	Fire Resistant[1]	Water Resistant	Impact Resistant	Mould Resistant	Acoustic[2]
13mm Firestop 16mm Firestop	Yes	No	N/A	No	Yes
16mm Fire Wetstop	Yes	Yes	N/A	No	Yes
25mm Shaftliner Mouldstop	Yes	Yes	N/A	Yes	Yes

Table 1: Performance attributes

Note:
1) Refer to Table 2-14 for wall and ceiling Systems FRL
2) Refer Systems+ for acoustic performance

Steel Stud Wall Systems	Plasterboard Configuration		FRL		Cavity Insulation
	Side 1	Side 2	Non Load Bearing	Load Bearing	
Single Steel Studs (SB) Twin Steel Studs (ST) Staggered Studs (SS) Quiet Stud (SQ)	1x13mm Firestop	1x13mm Firestop	-/30/30	30/30/30	-
	1x13mm Firestop	1x13mm Firestop	-/60/60*	30/30/30	1x50G11* (minimum)
	2x13mm Firestop	2x13mm Firestop	-/120/120	90/90/90	-
	1x13mm Firestop	2x13mm Firestop	-/90/90*	30/30/30	1x50G11* (minimum)
	1x16mm Firestop	1x16mm Firestop	-/60/60	60/60/60 ACR 20%	-
	1x16mm Firestop	1x16mm Firestop	-/90/90*	60/60/60 ACR 20%	1x50G11* (minimum)
	2x16mm Firestop	2x16mm Firestop	-/120/120	120/120/120 ACR 20%	-
Single Steel Studs (SO) (FRL from lined side only)	2x16mm Firestop	-	-/60/60	60/60/60	-
	3x16mm Firestop	-	-/120/120	120/120/120	-
	3x16mm Firestop	-	-/120/120	120/120/120	-

Table 2: Steel Stud Wall Systems and Fire Resistance Level

Note:
1) FRL from both directions unless noted otherwise.
*2) Must include glasswool insulation (G) as indicated
3) Load bearing steel studs to be designed by suitably qualified Structural Engineer and where appropriate apply Axial Capacity Reduction (ACR) as indicated in table

Wall and Specialty Systems

Timber Stud Wall Systems	Plasterboard Configuration		FRL		Cavity Insulation
	Side 1	Side 2	Non Load Bearing	Load Bearing	
Single Studs (TB) Twin Studs (TT) Staggered Studs (TS) Single Stud (TF) with furring channel	1x13mm Firestop	1x13mm Firestop	-/30/30	30/30/30	-
	1x13mm Firestop	2x13mm Firestop	-/60/60	30/30/30	-
	1x16mm Firestop	1x16mm Firestop	-/60/60	60/60/60 cf 23	-
	2x13mm Firestop	2x13mm Firestop	-/90/90	90/90/90 cf 10	-
	2x16mm Firestop	2x16mm Firestop	-/120/120	120/120/120 cf 20	-
Single Studs (TO) (FRL from lined side only)	2x16mm Firestop	-	-/60/60	60/60/60	-
	3x13mm Firestop	-	-/90/90	90/90/90	-
	3x16mm Firestop	-	-/120/120	120/120/120	-

Table 3: Timber Stud Wall Systems and Fire Resistance Level

Note:
1) FRL from both directions unless noted otherwise.
2) Additional layers of villaboard or non-technical plasterboard to the systems in table 3 will not affect FRL
3) Timber studs to be 70mm min in depth unless noted otherwise and designed by suitably qualified Structural Engineer to the assigned system charfactor (cf) number. Refer to Knauf for charfactor (cf) design tables.

OutRwall Timber Stud Wall Systems	Plasterboard Configuration		FRL		Cavity Insulation
	Internal Lining	External Lining	Non Load Bearing	Load Bearing	
Single Timber Studs (OWT) Lightweight cladding on battens over building wrap	1x10mm SHEETROCK ONE	1x13mm Firestop	-	30/30/30 from outside	-
	1x10mm SHEETROCK ONE	1x16mm Firestop	-	60/60/60 cf 23 from outside (90mm timber studs only)	1x75G11* (minimum)
	1x10mm SHEETROCK ONE	1x16mm Firestop	-	60/60/60 cf 23 from outside (must use James Hardie external cladding)	1x50G11* (minimum)
	1x16mm Firestop	1x16mm Firestop	-	60/60/60 cf 23	-
	1x10mm SHEETROCK ONE	2x13mm Firestop	-	60/60/60 cf 10 from outside	1x50G11* (minimum)
	1x16mm Firestop	2x16mm Firestop	-	90/90/90 from outside 60/60/60 cf 23 from outside	-
	2x13mm Firestop	2x13mm Firestop	-	90/90/90 cf 10	-
	2x16mm Firestop	2x16mm Firestop	-	120/120/120 cf 20	-

Table 4 : OutRwall Timber Stud Wall Systems and Fire Resistance Level

Note:
1) FRL from both directions unless noted otherwise.
2) All Firestop variants may be used for internal or external lining dependent on project design, refer table 1 for information.
*3) Must include glasswool insulation (G) as indicated
4) Where required James Hardie external cladding must be used to achieve FRL
5) Timber studs to be 70mm min in depth unless noted otherwise and designed by suitably qualified Structural Engineer to the assigned system charfactor (cf) number. Refer to Knauf for charfactor (cf) design tables.

Wall and Specialty Systems

OutRwall Steel Stud Wall Systems	Plasterboard configuration		FRL		Cavity Insulation
	Internal Lining	External Lining	Non Load Bearing	Load Bearing	
Single Steel Studs (OWS) Lightweight cladding on battens over building wrap	1x10mm SHEETROCK ONE	1x13mm Firestop	-/30/30 from outside	30/30/30 from outside	-
	1x13mm Firestop	1x13mm Firestop	-/60/60*	30/30/30	1x50G11* (minimum)
	1x10mm SHEETROCK ONE	1x16mm Firestop	-/60/60* from outside (must use James Hardie external cladding)	60/60/60 from outside (must use James Hardie external cladding)	1x50G11* (minimum)
	1x13mm SHEETROCK HD	1x16mm Firestop	-/60/60* ACR 20%	60/60/60* ACR 20% from outside	1x50G11* (minimum)
	1x10mm SHEETROCK ONE	2x13mm Firestop	-/90/90 from outside	90/90/90 from outside	-
	1x16mm Firestop	1x16mm Firestop	-/90/90*	60/60/60 ACR 10%	1x75G11* (minimum)
	2x13mm Firestop	2x13mm Firestop	-/120/120	90/90/90	-
	2x16mm Firestop	2x16mm Firestop	-/120/120	120/120/120 ACR 20%	-

Table 5 : OutRwall Steel Stud Wall Systems and Fire Resistance Level

Note:
1) FRL from both directions unless noted otherwise.
*2) Must include glasswool insulation (G) as indicated
3) Where required James Hardie external cladding must be used to achieve FRL
4) All Firestop variants may be used for internal lining or external lining dependent on project design, refer table 1 for information.
5) Steel studs to be 70mm in depth min and designed by suitably qualified Structural Engineer and where appropriate apply Axial Capacity Reduction (ACR) as indicated in table.

FireClad Wall Systems	Wall configuration		FRL	
	Internal side	External side	From inside	From outside
Steel cladding on battens over building wrap with 2 or more fire-rated plasterboard (FC)	-	2x16mm Firestop	-	60/60/60
	-	3x13mm Firestop	-	90/90/90
	-	3x16mm Firestop	-	120/120/120

Table 6: FireClad wall Systems and Fire Resistance Level

Brick Veneer with Timber Stud Wall Systems	Wall configuration		FRL	
	Internal side	External side	From inside	From outside
110 clay brick- 170 kg/m², 50mm air gap, single Timber Stud (BVT)	1x13mm Firestop	Brick Veneer with 30/30/30 FRL	30/30/30	30/30/30
	1x16mm Firestop	Brick Veneer with 60/60/60 FRL	60/60/60 cf 23	60/60/60
	2x13mm Firestop	Brick Veneer with 90/90/90 FRL	90/90/90 cf 10	90/90/90
	2x16mm Firestop	Brick Veneer with 120/120/120 FRL	90/90/90 cf 20	120/120/120

Table 7: Brick Veneer Timber Stud Wall Systems and Fire Resistance Level

Note:
1) All Firestop variants may be used for internal lining dependent on project design, refer table 1 for information.
2) Timber studs to be 70mm min in depth unless noted otherwise and designed by suitably qualified Structural Engineer to the assigned system charfactor (cf) number. Refer to Knauf for charfactor (cf) design tables

Wall and Specialty Systems

Brick Veneer with Steel Stud Wall Systems	Wall configuration		FRL	
	Internal side	External side	From inside	From outside
110 clay brick- 170 kg/m², 50mm air gap, single Steel Stud (BVS)	1x13mm Firestop	Brick Veneer with 60/60/60 FRL	-/60/60 or 30/30/30	60/60/60
	1x16mm Firestop	Brick Veneer with 90/90/90 FRL	-/90/90 or 60/60/60 ACR 20%	90/90/90
	2x13mm Firestop	Brick Veneer with 90/90/90 FRL	90/90/90 or -/120/120	90/90/90
	2x16mm Firestop	Brick Veneer with 120/120/120 FRL	-/120/120 or 120/120/120 ACR 20%	120/120/120

Table 8: Brick Veneer Steel Stud Wall Systems and Fire Resistance Level

Note:

1) All Firestop variants may be used for internal lining dependent on project design, refer table 1 for information.

2) Steel studs to be 70mm min in depth and designed by suitably qualified Structural Engineer

Column/Beam Protection Systems	System configuration		FRL
	Plasterboard Lining	Framing	Load Bearing
Steel Column - I sections (PSC.1) (encasement channel forming gap around column)	1x13mm Firestop	Refer Rondo	30/-/-
Steel Column - SHS/ RHS sections (PSC.2) (Rondo PN 142 track forming 18mm min. gap around column)	2x13mm Firestop	Refer Rondo	60/-/-
	2x16mm Firestop	Refer Rondo	90/-/-
Steel Column - CHS sections (PSC.3) (Rondo 0.75mm BMT track forming gap around column)	3x13mm Firestop	Refer Rondo	120/-/-
Concrete Column (PCC.1)	1x13mm Firestop	Furring channel to concrete column	+30/-/-
	2x13mm Firestop	Furring channel to concrete column	+60/-/-
	2x16mm Firestop	Furring channel to concrete column	+90/-/-
	1x25mm Shaftliner Mouldstop	Furring channel to concrete column	+120/-/-
Timber Column (PTC.1) Timber Beam (PTB.1)	1x13mm Firestop	Direct fix or furred	30/-/-
	2x13mm Firestop	Direct fix or furred	60/-/-
	3x13mm Firestop	Direct fix or furred	90/-/-
	3x16mm Firestop	Direct fix or furred	120/-/-
Steel Beam (PSB.1)	1x13mm Firestop	Spaced from sides and bottom of steel beam	30/-/-
	2x13mm Firestop	Spaced from sides and bottom of steel beam	60/-/-
	2x16mm Firestop	Spaced from sides and bottom of steel beam	90/-/-
	3x13mm Firestop	Spaced from sides and bottom of steel beam	120/-/-
	furring + 2x16mm Firestop +furring+1x16mm Firestop	Spaced from sides and bottom of steel beam supporting concrete floor	120/-/-
	Ceiling bulkhead or furring + 2x16mm Firestop+furring+1x16mm Firestop	Spaced from sides and bottom of steel beam supporting timber floor	120/-/-

Table 9: Column/Beam Protection Wall Systems and Fire Resistance Level

Note:

1) All Firestop variants may be used for internal lining dependent on project design, refer table 1 for information.

2) Structural columns/beams designed by others.

Wall and Specialty Systems

| Column/Beam within fire-rated Wall Systems | Plasterboard Configuration | | Charfactor, cf (timber only) | FRL |
	Side 1	Side 2		Load Bearing
Steel/Timber Column and Beam (PSC.4)	1x13mm Firestop	1x13mm Firestop	-	30/-/-
	1x16mm Firestop	1x16mm Firestop	23	60/-/-
	2x13mm Firestop	2x13mm Firestop	10	90/-/-
	2x16mm Firestop	2x16mm Firestop	20	120/-/-

Table 10: Column/Beam within fire-rated Wall Systems and Fire Resistance Level

Note:

1) All Firestop variants may be used for internal lining dependent on project design, refer table 1 for information.

2) Timber columns to be 70mm min in depth unless noted otherwise and designed by suitably qualified Structural Engineer to the assigned system charfactor (cf) number. Refer to Knauf for charfactor (cf) design tables

3) Structural columns/beams designed by others.

| Shaft/Duct Riser Wall Systems | Plasterboard Configuration | | FRL | | Cavity Insulation |
	Side 1	Side 2	Non Load Bearing	Load Bearing	
Ventshaft (VS)	3x13mm Firestop	-	-/90/90	-	-
	3x16mm Firestop	-	-/120/120	-	-
Shaftwall (SH)	1x25mm Shaftliner Mouldstop	2x13mm Firestop	-/90/90	-	-
	1x25mm Shaftliner Mouldstop	2x16mm Firestop	-/120/120	-	-
	1x25mm Shaftliner Mouldstop	1x13mm Firestop + 1x16mm Firestop	-/120/120	-	-

Table 11: Shaft/Duct Riser Wall Systems and Fire Resistance Level

Note:
1) FRL from both directions unless noted otherwise.

| Shaft/Duct Riser Wall Systems | Plasterboard Configuration | | FRL | |
	Side 1	Side 2	From side 1	From side 2
Masonry Wall (MW)	1x16mm Firestop	-	+30/+30/+30	-
	1x16mm Firestop	1x16mm Firestop	+30/+60/+60	+30/+60/+60
	2x13mm Firestop	-	+60/+60/+60	-
	2x13mm Firestop	2x13mm Firestop	+60/+120/+120	+60/+120/+120
	2x16mm Firestop	-	+90/+90/+90	-
	2x16mm Firestop	2x16mm Firestop	+90/+180/+180	+90/+180/+180

Table 12: Masonry Wall upgrade systems and Fire Resistance Level

Note:
1) Firestop plasterboard fixed to 28mm furring channels
2) All Firestop variants may be used for internal lining dependent on project design, refer table 1 for information.

Ceiling Systems and Fire Tunnel Systems

- The above fire-rated products have been tested and assessed by BRANZ to achieve the Fire Resistance Level (FRL) and/or Resistance to Insipient Spread of Fire (RISF) as indicated in Table 13 and 14. Refer to this document for FRL and RISF specifications only.

- Table 13 and 14 are applicable to variants of 13mm, 16mm Firestop® (Fire Wetstop) and 25mm Shaftliner™ Mouldstop products as listed above. All Firestop plasterboard products of the same thickness achieve the same Fire Resistance Level (FRL or RISF) and interchangeable from a fire rating performance perspective. Firestop (Fire Wetstop) may be substituted with Multistop™ plasterboard range of equivalent thickness and attributes.

- **Ensure steel framing manufacturer (Rondo) is consulted in the design of ceiling framing system to support new fire-rated products as listed above.**

- For acoustic performance of Ceiling Systems, refer to Systems+ Section G systems lined with Firestop/ Shaftliner products.

- The installation details of Ceiling Systems with the new fire-rated products have NOT changed. Refer to Knauf Systems+ and technical manuals for installation details.

- Existing Knauf fire-rated product (e.g. Firestop manufactured up to 2021) may be used in conjunction with the new fire-rated products. However, refer to Table 13 and 14 below for Systems requirements and Fire Resistance Level.

Ceiling Systems	Plasterboard Configuration		FRL	RISF	FRL Direction	Cavity Insulation
	Top Lining	Below Lining				
Ceiling under Roof (CR) (direct fix or furring channel system) **Ceiling under Floor (CT), (CC)** steel or concrete floor (Direct fix or furring channel system)	-	1x13mm Firestop	30/30/30	-	From below	-
	-	1x16mm Firestop	30/30/30	-	From below	-
	-	2x13mm Firestop	60/60/60	30 mins	From below	-
	-	1x13mm Firestop + 1x16mm Firestop	60/60/60	60 mins	From below	-
	-	2x16mm Firestop	90/90/90	60 mins	From below	-
	-	3x16mm Firestop	120/120/120	90 mins	From below	-
	-	2x16mm Firestop + Furring + 2x16mm Firestop	120/120/120	120 mins	From below	-
Spanning Ceiling (CS) (150 CS studs)	1x16mm Firestop	1x16mm Firestop	60/60/60	-	From above	
	2x13mm Firestop	1x13mm Firestop	90/90/90	-	From above	-
	2x13mm Firestop	3x13mm Firestop	90/90/90	-	Both sides	-
	2x16mm Firestop	2x16mm Firestop	120/120/120 (from above) 60/60/60 (from below)	-	Refer FRL	-
	2x16mm Firestop	1x16mm Firestop + 1x10mm SHEETROCK ONE	120/120/120	-	From above	-
	2x16mm Firestop	3x16mm Firestop	120/120/120	-	Both sides	-
Horizontal Shaftwall (CH) (CH Studs)	1x25mm Shaftliner Mouldstop	2x16mm Firestop	60/60/60	-	Both sides	-
	1x25mm Shaftliner Mouldstop	3x16mm Firestop	120/120/120	-	Both sides	-
	3x16mm Firestop	1x25mm Shaftliner Mouldstop	120/120/120	-	Both sides	-

Ceiling Systems and Fire Tunnel Systems

Fire Tunnel Systems	Plasterboard Configuration				Framing	FRL Direction
	Ceiling		Wall			
	Top Lining	Below Lining	Internal side	External Side		
Fire Tunnel (FT)	1x16mm Firestop	1x16mm Firestop	1x16mm Firestop	1x16mm Firestop	Welded Rondo Steel frames	-/60/60 from outside
	2x16mm Firestop	2x16mm Firestop	1x16mm Firestop	1x16mm Firestop	Welded Rondo Steel frames	-/60/60 from both sides
	2x13mm Firestop	1x13mm Firestop	1x13mm Firestop	2x13mm Firestop	Welded Rondo Steel frames	-/90/90 from outside
	2x16mm Firestop	1x16mm Firestop + 1x10mm SHEETROCK ONE	1x16mm Firestop + 1x10mm SHEETROCK ONE	2x16mm Firestop	Welded Rondo Steel frames	-/120/120 from outside
	2x16mm Firestop	3x16mm Firestop	2x16mm Firestop	2x16mm Firestop	Welded Rondo Steel frames	-/120/120 from both sides

Table 14: Fire Tunnel Systems and Fire Resistance Level

Note:
1) Welded Rondo steel frames to be ex 150mm studs, tracks and angles

Note

- Stated glasswool insulation forms part of the Fire Resistance Level (FRL).
  50G11 – Denotes 50mm Glasswool 11.0kg m^3
  75G11 – Denotes 75mm Glasswool 11.0kg/m^3

- Stated steel studs and framing system are manufactured by Rondo and forms part of fire-rating system, should other steel suppliers be used in Knauf systems, it is the responsibility of the supplier to provide relevant certification to meet requirements of the NCC.

- Refer to Knauf Systems+ technical manual for systems details and relevant information.

Partiwall®

- Only Partiwall® Systems with FRL 60/60/60 requirement can use the above fire-rated products.

- New and existing fire-rated plasterboard products may be used together without affecting the Fire Resistance Level.

- The installation details of Partiwall with the new fire-rated products have NOT changed. Refer to Knauf Partiwall manual for installation details.

- Do not mix and match Knauf products and other manufacturer's products. Systems are required to be installed as complete Systems with plasterboard products manufactured by the same manufacturer of choice.

- Use 16mm Firestop and screw laminate to the 25mm Shaftliner™ Mouldstop in accordance with the Partiwall manual.

IntRwall®

- Only IntRwall® Systems IW60.3, IW60.4, IW60.5 and with FRL -/60/60 requirement can use the above products. Refer to Systems+ for systems information.

- New and existing fire-rated plasterboard products may be used together without affecting the Fire Resistance Level.

- Glasswool insulation in wall cavity as required by Systems performance. **Polyester insulation is not permitted.**

- Refer to Knauf technical literature and Handbook for installation details.

- Where internal linings of wall system do not extend full height of wall and terminate at the ceiling level, use 16mm Firestop and screw laminate to the 25mm Shaftliner™ Mouldstop above the ceiling line as required in accordance with the IntRwall installation details.

- Do not mix and match Knauf products and other manufacturer's products. Systems are required to be installed as complete systems with plasterboard products manufactured by the same manufacturer of choice.

Compliance

- 13mm Firestop, 16 Firestop, 13mm Fire Wetstop, 16mm Fire Wetstop and 25mm Shafliner Mouldstop have been tested and assessed by BRANZ (Fire Testing Authority) to be used in fire rated wall systems, ceiling systems and specialty systems as indicated in Table 2-14, Partiwall and Intrwall systems. **Fire rated systems are compliant to National Construction Code 2022 and AS 1530.4-2014.**

- Install products as per our technical manuals to ensure the systems are in accordance with systems certification.

- Do not mix and match Knauf products and other manufacturer's products. Systems are required to be installed as complete systems with plasterboard products manufactured by the same manufacturer of choice.

- Fire reports available on request and can be sent directly to Building Surveyors and certifiers.

Technical Support

Contact Knauf TecASSIST for technical support and enquiries relating to Knauf's new fire-rated product and installation of Wall and Ceiling Systems, specialty Systems, Partiwall, and IntRwall.

Phone: **1800 811 222**

Email: **TecASSIST@knauf.com**