Promat

Compartmentation

Fire resistant solid/frameless internal partitions

Technical Manual

Hong Kong version

www.promat.com

2024-11

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Introduction

Partitions are used to separate buildings, enclose compartments and contain fire by providing a barrier to the passage of fire from one side or the other, or both. In doing so, they are able to satisfy each of the relevant fire resistant criteria (integrity, insulation and load bearing capacity) from either side for the prescribed period.

The application of partition and external wall systems using Promat boards covers both non loadbearing and loadbearing in commercial, industrial, institutional, residential and high rise constructions, or in the restoration of existing buildings. Promat's internal partition systems require less material to achieve similar fire resistant level when compared to industry average wallboard partition systems. The single layer board application leads to simplified construction methods over other equivalents and in turn to increased productivity and reduced overall installation cost.

These partition and external wall systems have been developed by Promat to satisfy standard requirements for intended applications. Such considerations include:

→ **Time and cost effectiveness**
Single layer application reduces installation cost and time compared to traditional wallboard constructions.

→ **Slim walls**
Partitions can be as thin as 35mm.

→ **Lightweight**
Lighter loads on structures compared to industry average wallboard partition systems for equivalent fire resistance.

→ **Thermal resistance**
Excellent thermal resistance performance. Impact resistant PROMATECT®-H partition systems have been tested for resistance to impact, stiffness and robustness in accordance with the criteria of BS 5234: Part 2.

→ **Acoustic performance**
Tested and assessed to a range of standards, including ISO 140-3: 1995, ISO 717-1: 1996, BS 5821: 1984 and BS 2750: Part 3: 1980, to meet the needs of industry. Please refer to <?> for more information.

→ **Fire resistance performance**
Promat partitions and external wall systems have been extensively tested and assessed in accordance with BS 476: Parts 21 and 22 to satisfy the integrity, insulation and where applicable loadbearing capacity (structural adequacy) criteria.

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Fire rated solid/frameless internal partition

Partition type	Model number	Fire resistance performance	Test standard	Test assessment report no.	Page no.
 PROMINA® 60 1-hour fire rated (kitchen barrier)	PMF.23.60	-/60/30	BS 476: Part 22: 1987	WF 402977 Issue 2	6
 PROMINA® 60 1-hour fire rated (kitchen barrier)	PMF.23.60	-/60/30	BS 476: Part 22: 1987	WF 402977 Issue 2	8
 PROMATECT®-H 1-hour fire rated	PH.23.60	-/60/60	BS 476: Part 20: 1987 BS 476: Part 22: 1987	BRE cc 86480A Review 6 Issue 1	10
 PROMATECT®-H 1-hour fire rated Type 1	PH.23.60	-/60/60	BS 476: Part 20: 1987 BS 476: Part 22: 1987	BRE cc 86480A Review 6 Issue 1	10
 PROMATECT®-H 1-hour fire rated Type 2	PH.23.60	-/60/60	BS 476: Part 20: 1987 BS 476: Part 22: 1987	BRE cc 86480A Review 6 Issue 1	12

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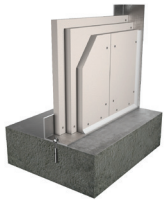
Fire rated solid/frameless internal partition

Partition type	Model number	Fire resistance performance	Test standard	Test assessment report no.	Page no.
 PROMATECT®-H 1-hour fire rated Type 3	PH.23.60	-/60/60	BS 476: Part 20: 1987 BS 476: Part 22: 1987	BRE cc 86480A Review 6 Issue 1	14
  PROMATECT®-H 2-hour fire rated	PH.23.12	-/120/120	BS 476: Part 22: 1987	FSRG 2022/002/001	16
  PROMATECT®-H 4-hour fire rated	PH.23.24	-/240/240	BS 476: Part 22: 1987	RED R23M14-1A	19

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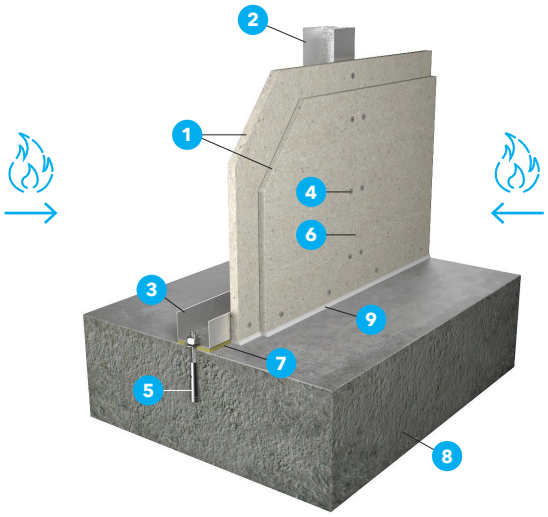
PROMINA® 60 – 1-hour fire rated solid/framed internal partition (kitchen barrier)

Resisting fire from either side / Non loadbearing



Fire Resistance	FRR	-/60/30	Model number: PMF.23.60
	Standard	BS 476: Part 22: 1987	
	Approval	WF 402977 Issue 2	
Acoustic	# STC	34	
	# Rw	34dB	
	Standard	ASTM E 492 ISO717: Part 1: 1996	
Construction	Maximum height	4880mm	
	Maximum length	Unlimited	
	Thickness	Nominal 22mm+	

Sound Insulation Prediction (Insul v.8.0.9), Marshall Day Acoustics 2015. Margin of error is generally within ±3dB, depending on cavity depth.

1. PROMINA® 60 board 12mm thick + 9mm thick installed in staggered joints between boards.
2. Steel studs min. 50 x 50 x 1.0mm thick at nominal 610mm centres.
3. Top and bottom track min. 50 x 50 x 1.0mm thick.
4. M4 self-tapping screws at nominal 200mm centres.
5. M6 all steel anchors bolts at nominal 500mm centres.
6. Line indicate board joints.
7. Mineral wool seal (optional).
8. Concrete floor slab.
9. PROMASEAL® Intumescent Acrylic Sealant to seal gaps on irregularities surface.

Table 1: Proposed steel channels dimension & expansion clearances

Height up to (m)	Minimum depth of top/ bottom track (mm)	Minimum expansion allowance (mm)
3.0	52 x 35 x 1.0	15.0
3.5	52 x 35 x 1.0	17.5
4.0	52 x 35 x 1.0	20.0
4.88	52 x 45 x 1.0	25.0

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PROMINA® 60 – 1-hour fire rated solid/framed internal partition (kitchen barrier)

Two layers Non loadbearing partition	**FRR**	-/60/30	Model number: PMF.23.60

1. PROMINA® 60 board 12mm thick + 9mm thick installed in staggered joints between boards.
2. Steel studs min. 50 x 50 x 1.0mm thick at nominal 610mm centres.
3. Top and bottom track min. 50 x 50 x 1.0mm thick.
4. M4 self-tapping screws at nominal 200mm centres.
5. M6 all steel anchors bolts at nominal 500mm centres.
6. Line indicate board joints.
7. Mineral wool seal (optional).
8. Concrete wall/floor slab.
9. PROMASEAL® Intumescent Acrylic Sealant to seal gaps on irregularities surface.

Table 1: Proposed steel channels dimension & expansion clearances

Height up to (m)	Minimum depth of top/ bottom track (mm)	Minimum expansion allowance (mm)
3.0	52 x 35 x 1.0	15.0
3.5	52 x 35 x 1.0	17.5
4.0	52 x 35 x 1.0	20.0
4.88	52 x 45 x 1.0	25.0

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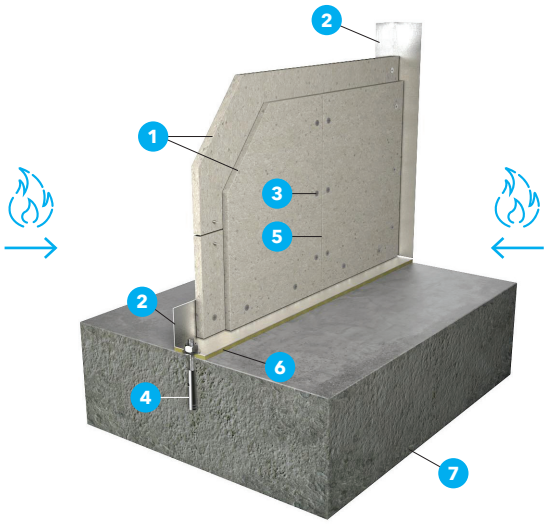
PROMINA® 60 – 1-hour fire rated solid/frameless internal partition (kitchen barrier)

Resisting fire from either side / Non loadbearing



Fire Resistance	**FRR**	-/60/30	Model number: PMF.23.60
	Standard	BS 476: Part 22: 1987	
	Approval	WF 402977 Issue 2	
Acoustic	**# STC**	34	
	# Rw	34dB	
	Standard	ASTM E 492 ISO717: Part 1: 1996	
Construction	**Maximum height**	4100mm	
	Maximum length	Unlimited	
	Thickness	Nominal 22mm+	

Sound Insulation Prediction (Insul v.8.0.9), Marshall Day Acoustics 2015. Margin of error is generally within ±3dB, depending on cavity depth.

1. PROMINA® 60 board 12mm thick + 9mm thick installed in staggered joints between boards.
2. Steel L-angle min. 50 x 50 x 1.0mm thick.
3. M4 self-tapping screws at nominal 200mm centres.
4. M6 all steel anchors bolts at nominal 500mm centres.
5. Line indicate board joints.
6. Mineral wool seal (optional).
7. Concrete floor slab.

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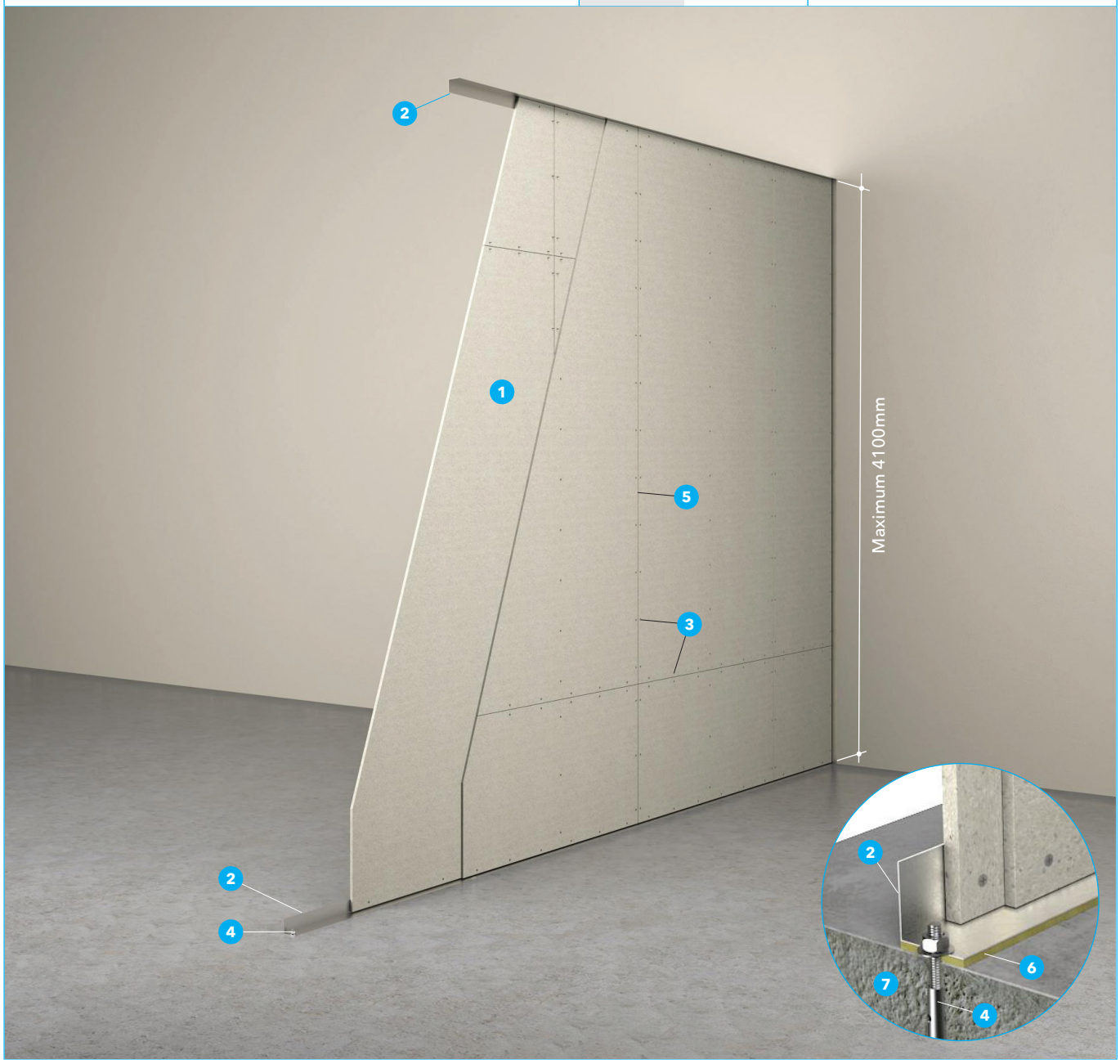
PROMINA® 60 – 1-hour fire rated solid/frameless internal partition (kitchen barrier)

Two layers Non loadbearing partition	**FRR**	-/60/30	Model number: PMF.23.60



1. PROMINA® 60 board 12mm thick + 9mm thick installed in staggered joints between boards.
2. Steel L-angle min. 50 x 50 x 1.0mm thick.
3. M4 self-tapping screws at nominal 200mm centres.
4. M6 all steel anchors bolts at nominal 500mm centres.
5. Line indicate board joints.
6. Mineral wool seal (optional).
7. Concrete floor slab.

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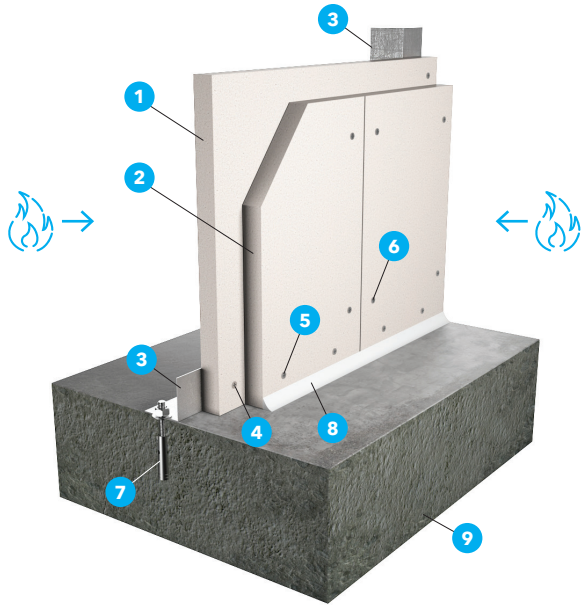
PROMATECT®-H – 1-hour fire rated solid/frameless internal partition (Type 1)

Resisting fire from either side / Non loadbearing



Fire Resistance	**FRR**	-/60/60	Model number: PH.23.60
	Standard	BS 476: Part 20: 1987 BS 476: Part 22: 1987	
	Approval	BRE cc 86480A review 6 issue 1	
Acoustic	**# STC** **# Rw**	34 36dB	
	Standard	ASTM E 492 ISO717: Part 1: 1996	
Construction	**Maximum height**	4000mm	
	Maximum length	Unlimited	
	Thickness	Nominal 85mm	
	Mass	From 39.61kg/m²	

Sound Insulation Prediction (Insul v.8.0.9), Marshall Day Acoustics 2015. Margin of error is generally within ±3dB, depending on cavity depth.

1. PROMATECT®-H board 20mm thick.
2. PROMATECT®-H board 15mm thick.
3. Steel L-angle 50 x 50 x 0.75mm BMT.
4. No. 6 x 32mm drywall screw.
5. No. 6 x 50mm drywall screw.
6. 5.5 x 40mm stitching screw.
7. M8 all steel expanding anchors.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.
9. Concrete floor slab.

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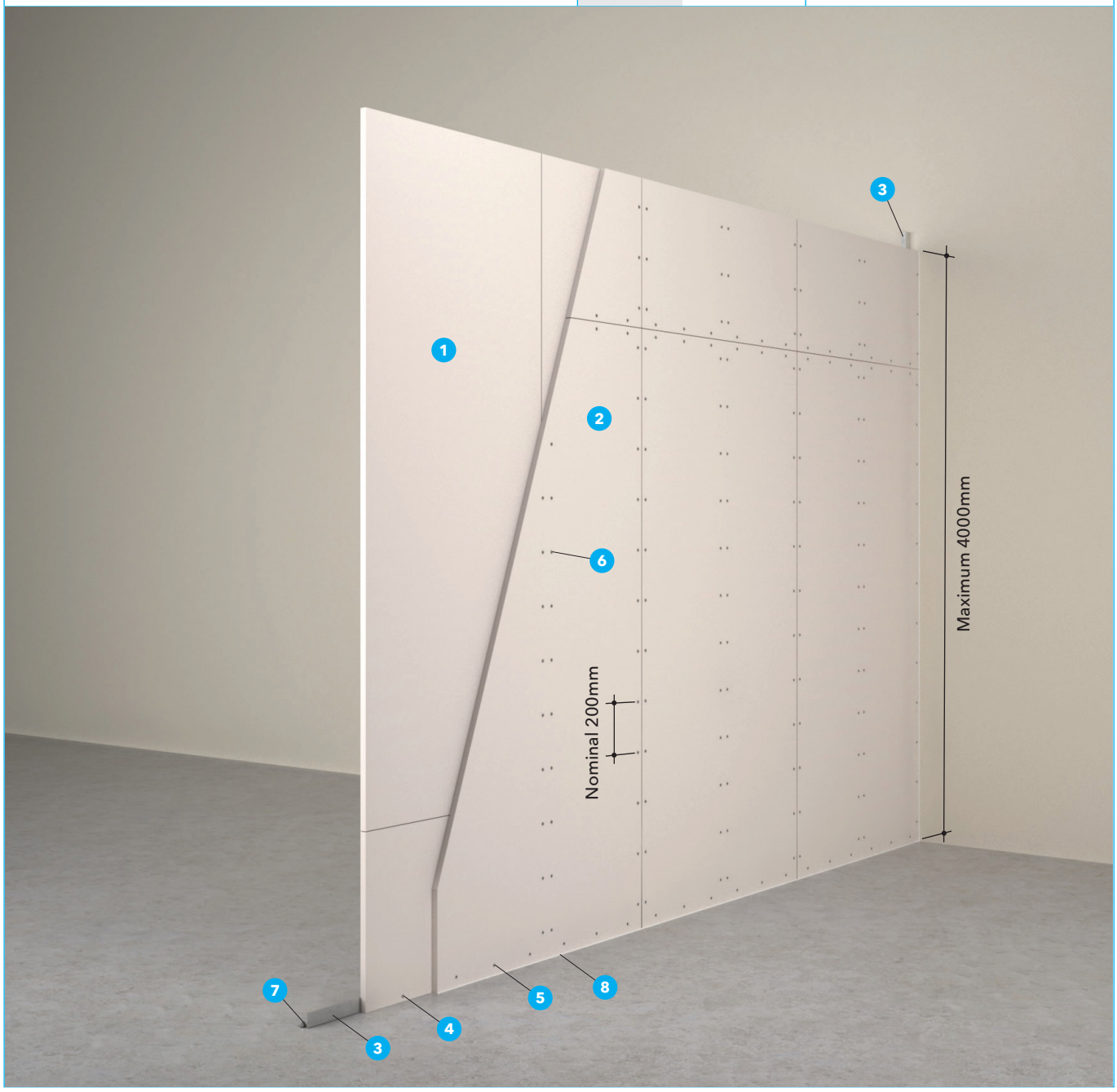
PROMATECT®-H – 1-hour fire rated solid/frameless internal partition (Type 1)

Two layers Non loadbearing partition	FRR	-/60/60	Model number: PH.23.60



1. PROMATECT®-H board 20mm thick.
2. PROMATECT®-H board 15mm thick.
3. Steel L-angle 50 x 50 x 0.75mm BMT.
4. No. 6 x 32mm drywall screw.
5. No. 6 x 50mm drywall screw.
6. 5.5 x 40mm stitching screw.
7. M8 all steel expanding anchors.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

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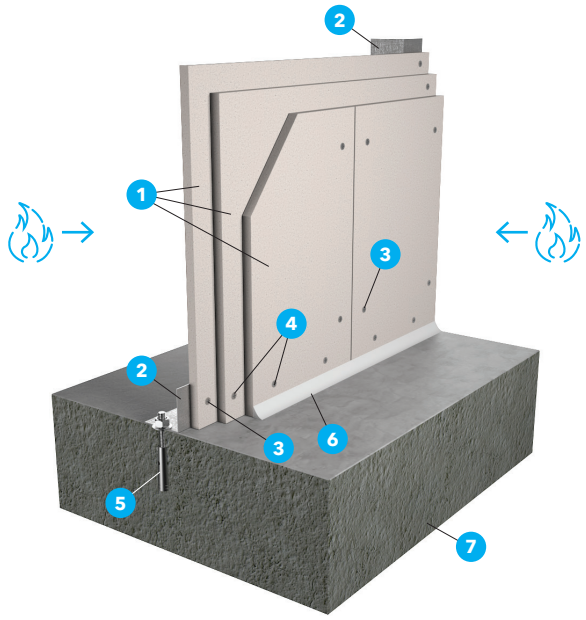
PROMATECT®-H – 1-hour fire rated solid/frameless internal partition (Type 2)

Resisting fire from either side / Non loadbearing



Fire Resistance	**FRR**	-/60/60	Model number: PH.23.60
	Standard	BS 476: Part 20: 1987 BS 476: Part 22: 1987	
	Approval	BRE cc 86480A review 6 issue 1	
Acoustic	**# STC** **# Rw**	34 36dB	
	Standard	ASTM E 492 ISO717: Part 1: 1996	
Construction	**Maximum height**	4000mm	
	Maximum length	Unlimited	
	Thickness	Nominal 85mm	
	Mass	From 39.61kg/m²	

Sound Insulation Prediction (Insul v.8.0.9), Marshall Day Acoustics 2015. Margin of error is generally within ±3dB, depending on cavity depth.

1. PROMATECT®-H board 12mm thick.
2. Steel L-angle 50 x 50 x 0.75mm BMT.
3. M4 self-tapping screws at nominal 300mm.
4. M4 self-tapping screws at nominal 200mm.
5. M8 all steel expanding anchors.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.
7. Concrete floor slab.

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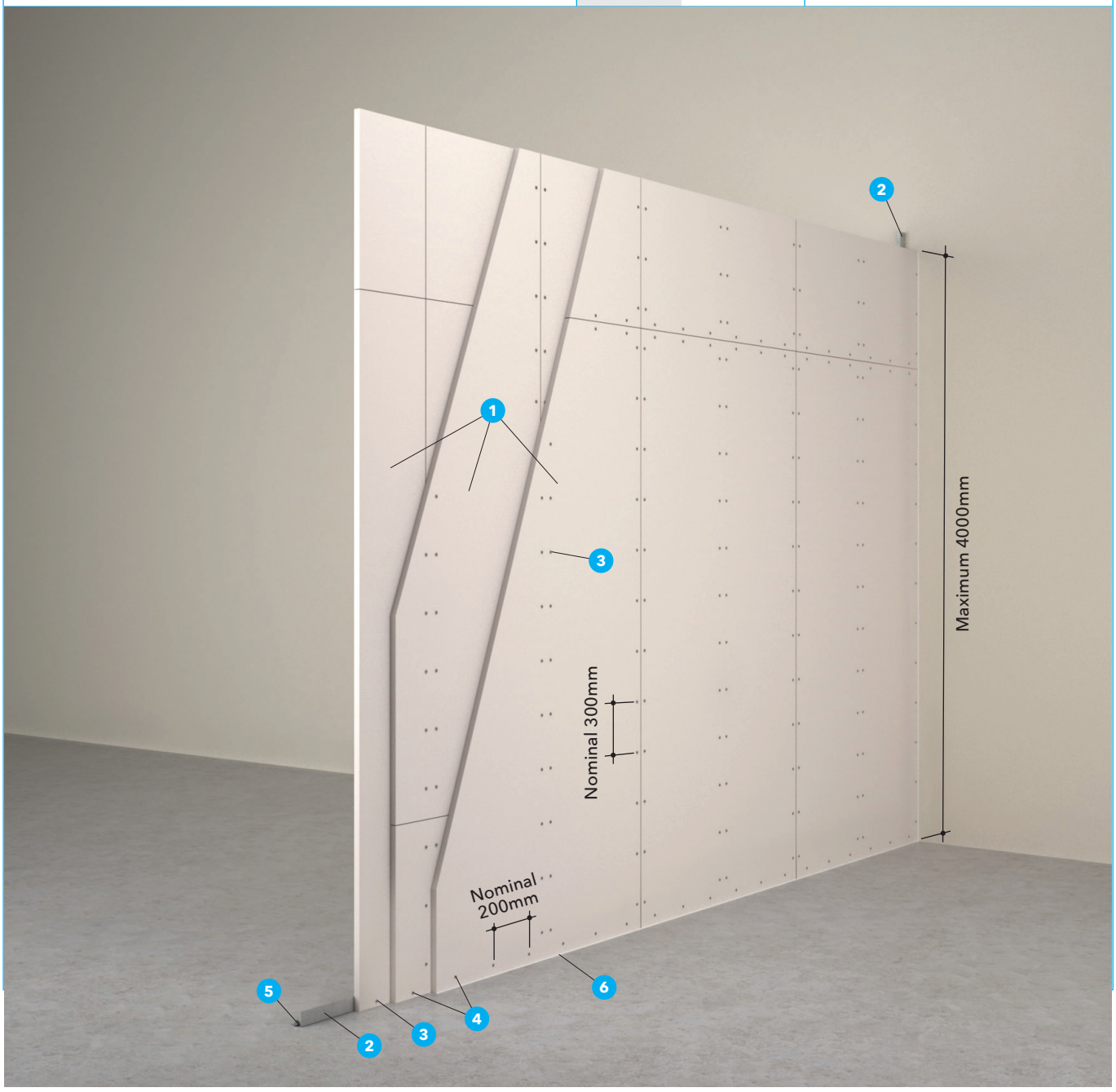
PROMATECT®-H – 1-hour fire rated solid/frameless internal partition (Type 2)

Two layers Non loadbearing partition	**FRR**	-/60/60	Model number: PH.23.60



1. PROMATECT®-H board 12mm thick.
2. Steel L-angle 50 x 50 x 0.75mm BMT.
3. M4 self-tapping screws at nominal 300mm.
4. M4 self-tapping screws at nominal 200mm.
5. M8 all steel expanding anchors.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

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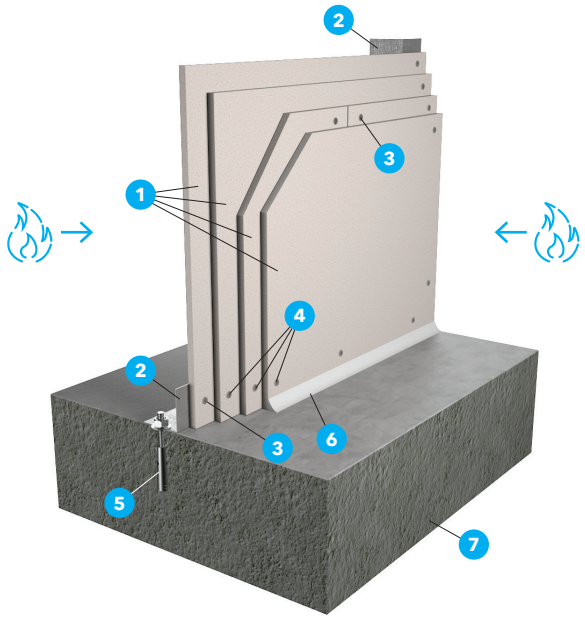
PROMATECT®-H – 1-hour fire rated solid/frameless internal partition (Type 3)

Resisting fire from either side / Non loadbearing



Fire Resistance	**FRR**	-/60/60	Model number: PH.23.60
	Standard	BS 476: Part 20: 1987 BS 476: Part 22: 1987	
	Approval	BRE cc 86480A review 6 issue 1	
Acoustic	**# STC** **# Rw**	34 36dB	
	Standard	ASTM E 492 ISO717: Part 1: 1996	
Construction	**Maximum height**	4000mm	
	Maximum length	Unlimited	
	Thickness	Nominal 85mm	
	Mass	From 39.61kg/m²	

Sound Insulation Prediction (Insul v.8.0.9), Marshall Day Acoustics 2015. Margin of error is generally within ±3dB, depending on cavity depth.

1. PROMATECT®-H board 9mm thick.
2. Steel L-angle 50 x 50 x 0.75mm BMT.
3. M4 self-tapping screws at nominal 300mm.
4. M4 self-tapping screws at nominal 200mm.
5. M8 all steel expanding anchors.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.
7. Concrete floor slab.

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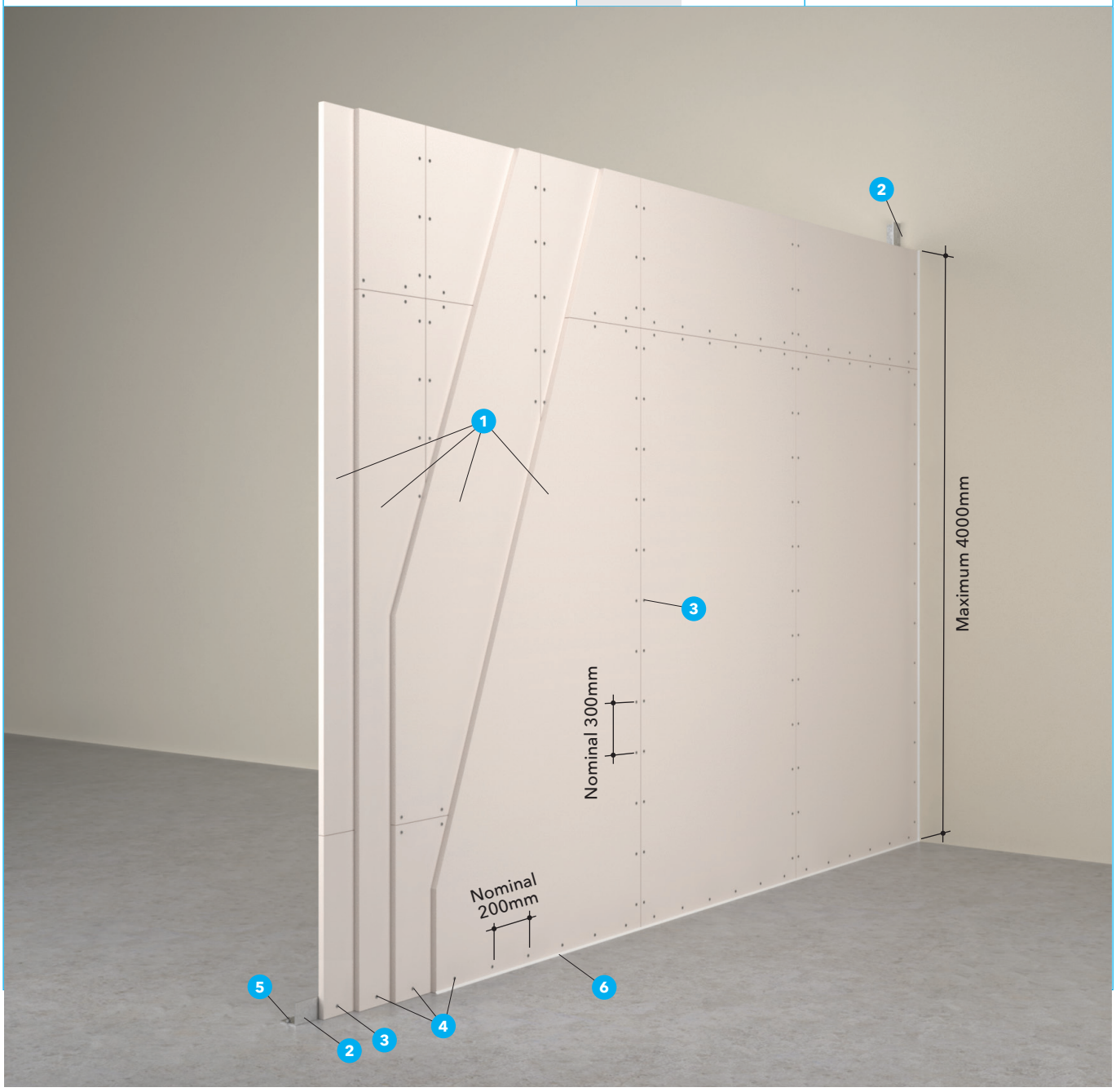
PROMATECT®-H – 1-hour fire rated solid/frameless internal partition (Type 3)

Two layers Non loadbearing partition	**FRR**	-/60/60	Model number: PH.23.60



1. PROMATECT®-H board 9mm thick.
2. Steel L-angle 50 x 50 x 0.75mm BMT.
3. M4 self-tapping screws at nominal 300mm.
4. M4 self-tapping screws at nominal 200mm.
5. M8 all steel expanding anchors.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

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PROMATECT®-H – 2-hour fire rated solid/frameless internal partition

Resisting fire from either side / Non loadbearing

Fire Resistance	**FRR**	-/120/120	Model number: PH.23.12
	Standard	BS 476: Part 22: 1987	
	Approval	FSRG 2022/002/001	
Acoustic	**# STC** **# Rw**	35 (two layers) 39 (three layers) 37dB (two layers) 39db (three layers)	
	Standard	ASTM E 492 ISO717: Part 1: 1996	
Construction	**Maximum height**	5000mm	
	Maximum length	Unlimited	
	Thickness	Nominal 100mm (two layers) Nominal 100mm (three layers)	
	Mass	52.52kg/m² (two layers) 52.52kg/m² (three layers)	

Sound Insulation Prediction (Insul v.8.0.9), Marshall Day Acoustics 2015. Margin of error is generally within ±3dB, depending on cavity depth.

1. PROMATECT®-H board 25mm thick.
2. PROMATECT®-H board 20mm thick.
3. PROMATECT®-H board 15mm thick.
4. Steel perimeter angle framing 50 x 50 x 1mm thick.
5. No. 8 x 38mm long self-tapping screws at nominal 200mm centres.
6. No. 8 x 45mm long self-tapping screws at nominal 200mm centres.
7. No. 8 x 30mm long self-tapping screws at nominal 200mm centres.
8. No. 8 x 35mm long self-tapping screws at nominal 200mm centres.
9. No. 8 x 45mm long self-tapping screws at nominal 200mm centres.
10. M6 anchor bolts at nominal 600mm centres.
11. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.
12. Concrete floor slab.

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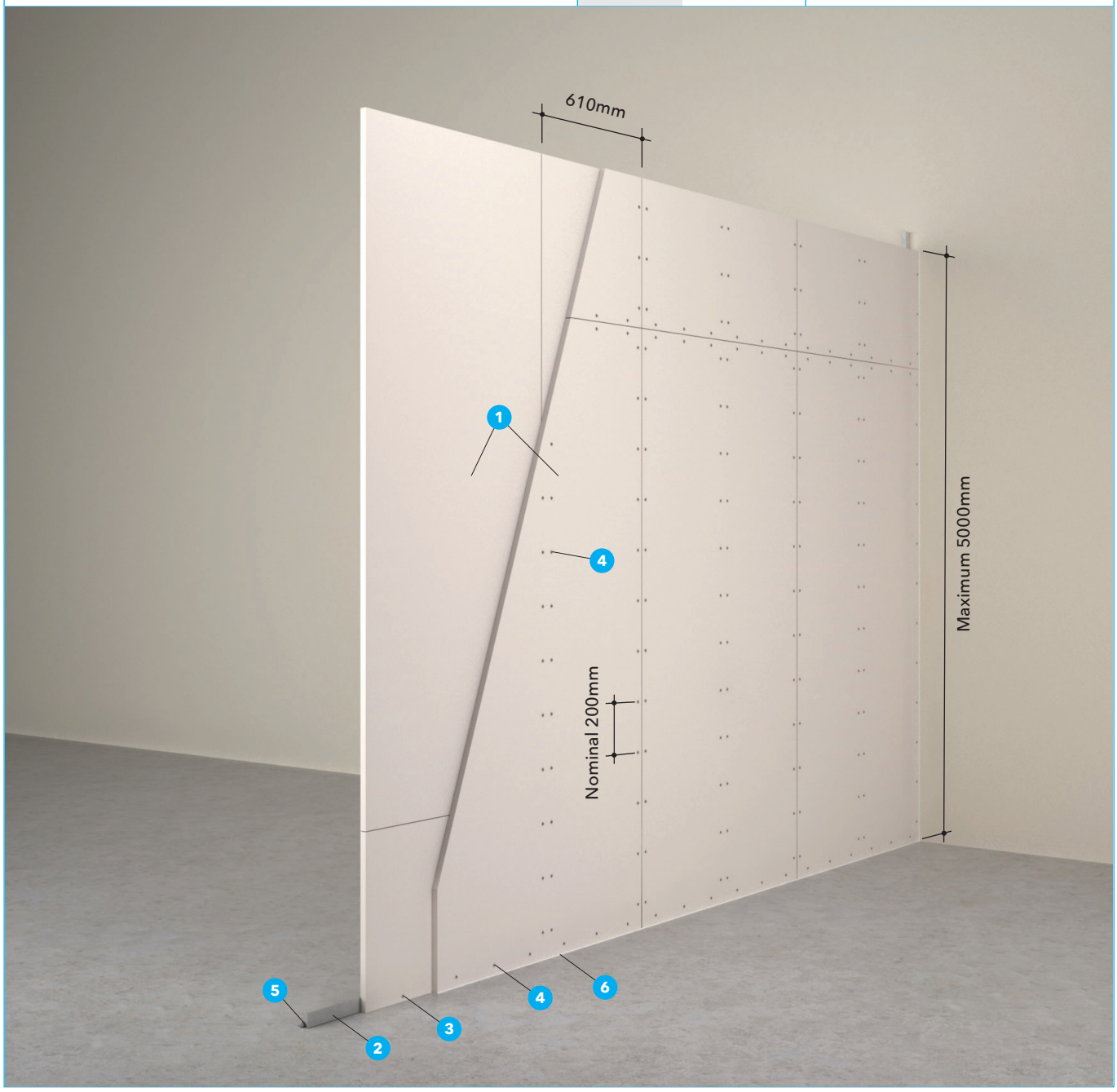
PROMATECT®-H – 2-hour fire rated solid/frameless internal partition

Two layers Non loadbearing partition	**FRR**	-/120/120	Model number: PH.23.12



1. PROMATECT®-H board 25mm thick.
2. Steel perimeter angle framing 50 x 50 x 1mm thick.
3. No. 8 x 38mm long self-tapping screws at nominal 200mm centres.
4. No. 8 x 45mm long self-tapping screws at nominal 200mm centres.
5. M6 anchor bolts at nominal 600mm centres.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

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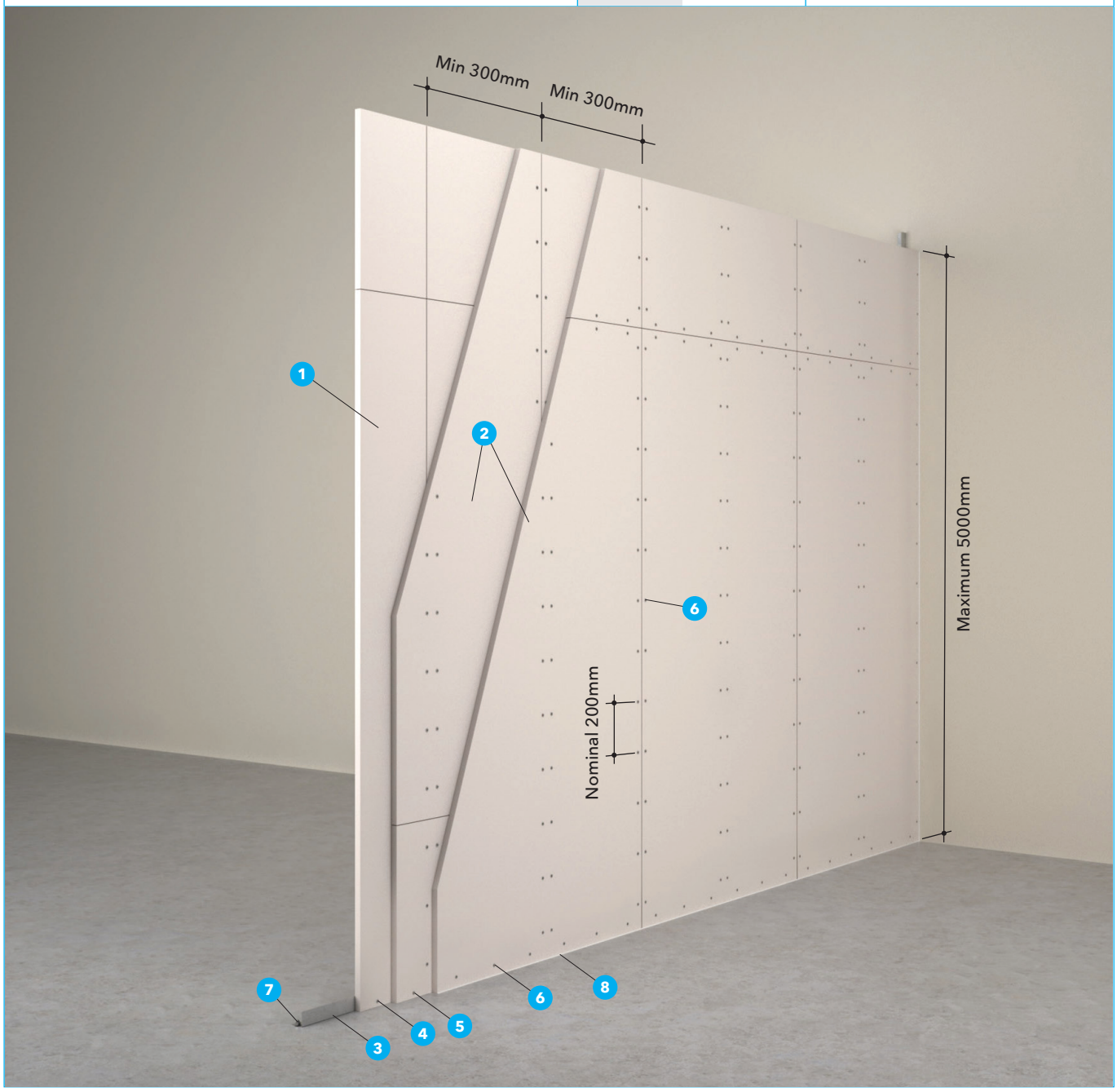
PROMATECT®-H – 2-hour fire rated solid/frameless internal partition

Three layers Non loadbearing partition	FRR	-/120/120	Model number: PH.23.12



1. PROMATECT®-H board 20mm thick.
2. PROMATECT®-H board 15mm thick.
3. Steel perimeter angle framing 50 x 50 x 1mm thick.
4. No. 8 x 30mm long self-tapping screws at nominal 200mm centres.
5. No. 8 x 35mm long self-tapping screws at nominal 200mm centres.
6. No. 8 x 45mm long self-tapping screws at nominal 200mm centres.
7. M6 anchor bolts at nominal 600mm centres.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

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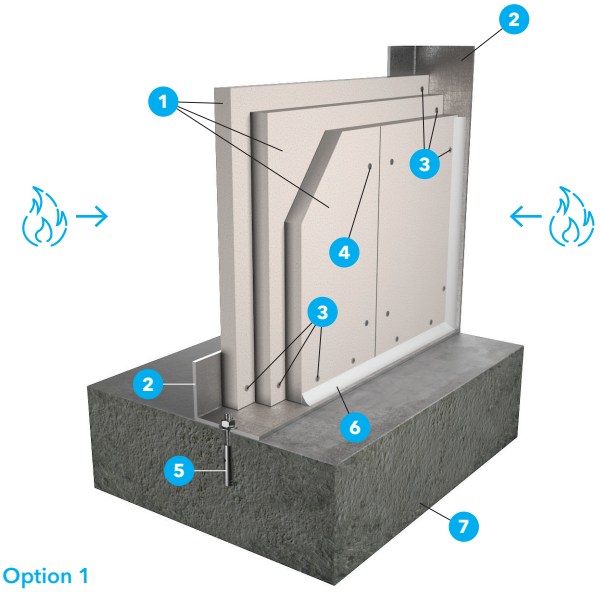
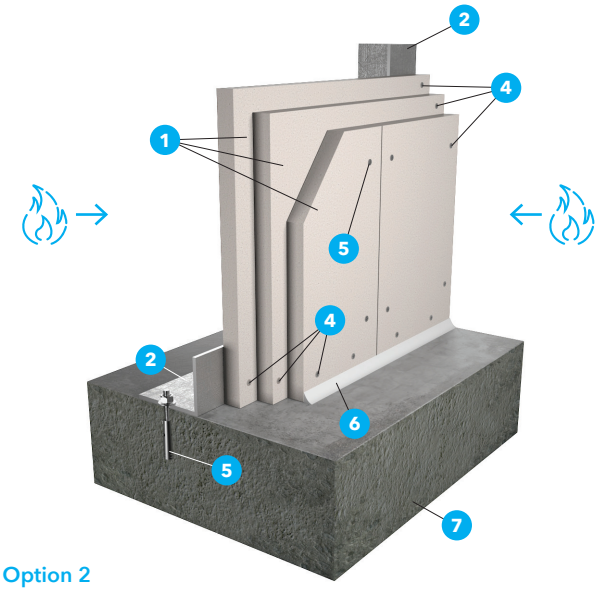
PROMATECT®-H – 4-hour fire rated solid/frameless internal partition

Resisting fire from either side / Non loadbearing



Option 1



Option 2

Fire Resistance	**FRR**	-/240/240	Model number: PH.23.24
	Standard	BS 476: Part 22: 1987	
	Approval	RED R23M14-1A	
Acoustic	**# STC** **# Rw**	39 41dB	
	Standard	ASTM E492, E413 ISO 717: Part 1: 1996	
Construction	**Maximum height**	4880mm	
	Maximum length	Unlimited	
	Thickness	Nominal 100mm (option 1) Nominal 175mm (option 2)	
	Mass	91kg/m² (option 1) 91kg/m² (option 2)	

Sound Insulation Prediction (Insul v.8.0.9), Marshall Day Acoustics 2015. Margin of error is generally within ±3dB, depending on cavity depth.

1. PROMATECT®-H board 25mm thick.
2. Galvanised steel perimeter angle 75 x 100 x 5mm thick.
3. No. 8 x 32mm long self-tapping screws at nominal 200mm centres.
4. Stitching screws at nominal 200mm centres.
5. M8 anchor bolts at nominal 500mm centres.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.
7. Concrete floor slab.

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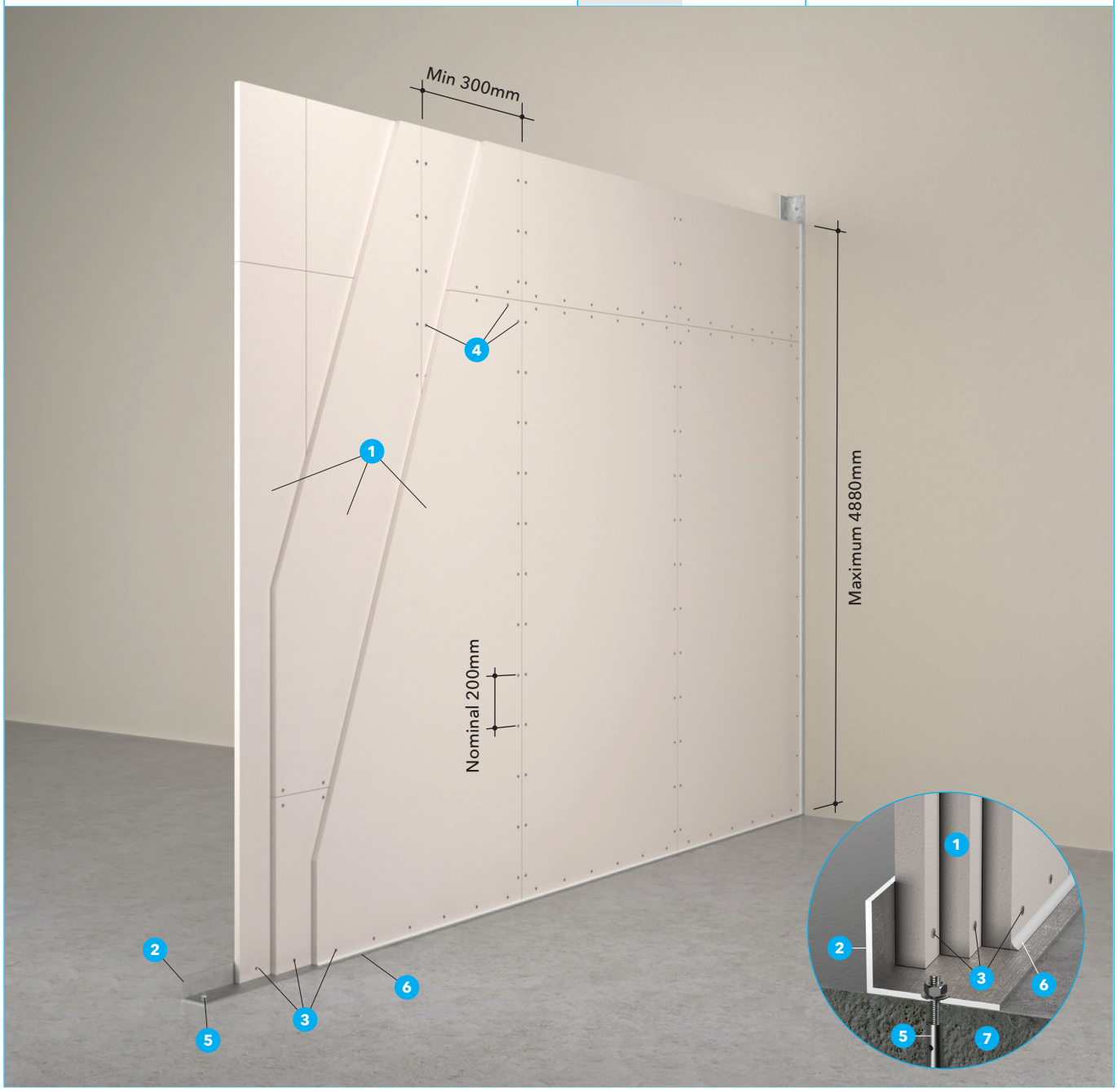
PROMATECT®-H – 4-hour fire rated solid/frameless internal partition (Option 1)

Four layers Non loadbearing partition	FRR	-/240/240	Model number: PH.23.24



1. PROMATECT®-H board 25mm thick.
2. Galvanised steel perimeter angle 75 x 100 x 5mm thick.
3. No. 8 x 32mm long self-tapping screws at nominal 200mm centres.
4. Stitching screws at nominal 200mm centres.
5. M8 anchor bolts at nominal 500mm centres.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.
7. Concrete floor slab.

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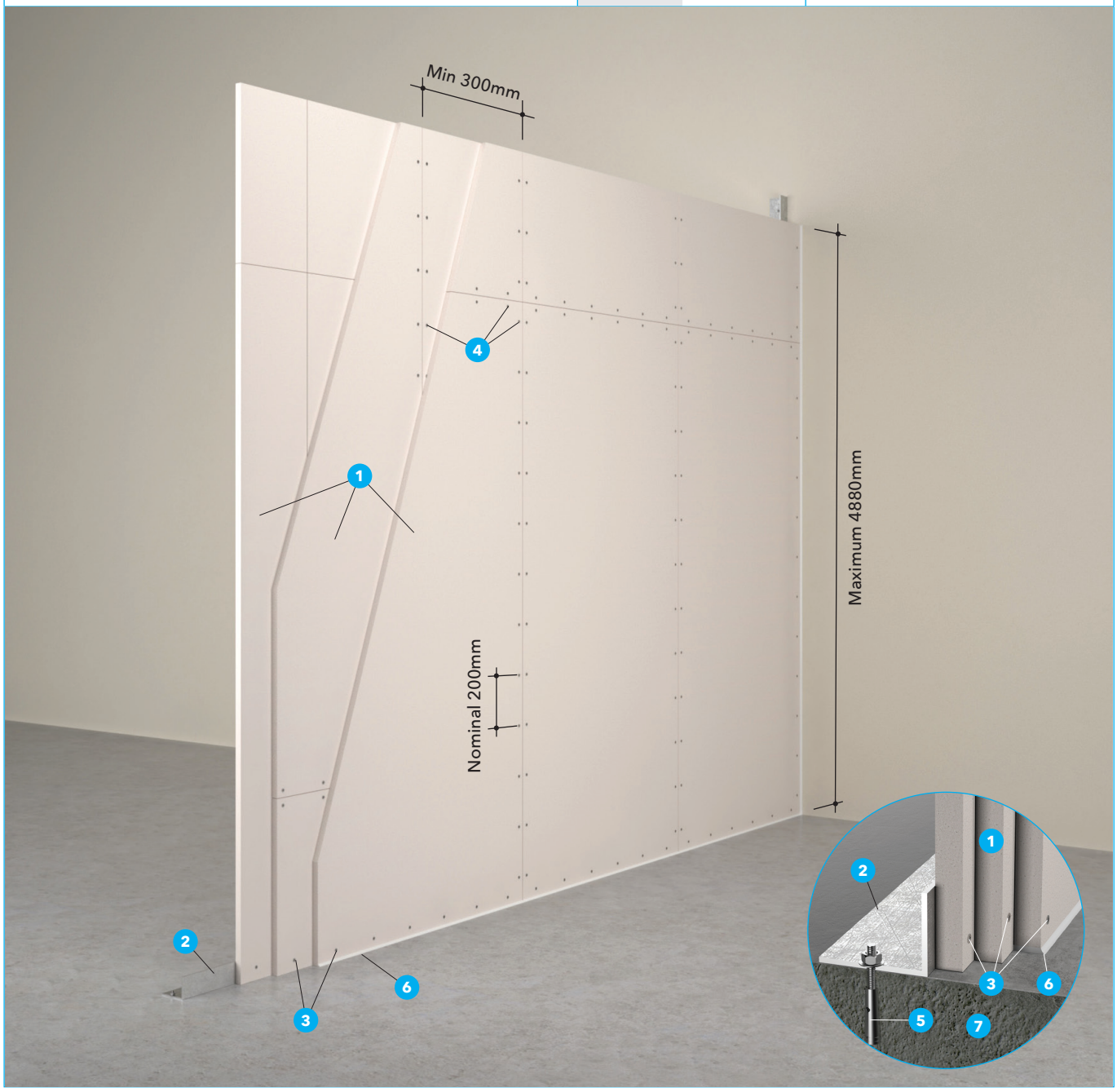
PROMATECT®-H – 4-hour fire rated solid/frameless internal partition (Option 2)

Four layers Non loadbearing partition	**FRR**	-/240/240	Model number: PH.23.24



1. PROMATECT®-H board 25mm thick.
2. Galvanised steel perimeter angle 75 x 100 x 5mm thick.
3. No. 8 x 32mm long self-tapping screws at nominal 200mm centres.
4. Stitching screws at nominal 200mm centres.
5. M8 anchor bolts at nominal 500mm centres.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.
7. Concrete floor slab.

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Promat Asia Pacific

THE EXPERTS IN PASSIVE FIRE PROTECTION

Promat is the expert and worldwide reference in passive fire protection and high-performance insulation for the construction sector and a large number of industrial markets. We offer sustainable solutions that protect lives and assets, enhance comfort, optimise process efficiency, minimise the loss of space and energy and help reduce CO_2 emissions.

Since 1958 — For over 60 years, Promat has been dedicated to designing, testing, and manufacturing comprehensive passive fire protection products and systems.

Conducting over 200 fire tests annually, we ensure our products and systems meet the highest international standards and regulations.

We understand your local fire safety regulations, offering the most efficient passive fire protection tailored to your unique building project.

All our systems have been tested and have obtained certificates from the local authorities.

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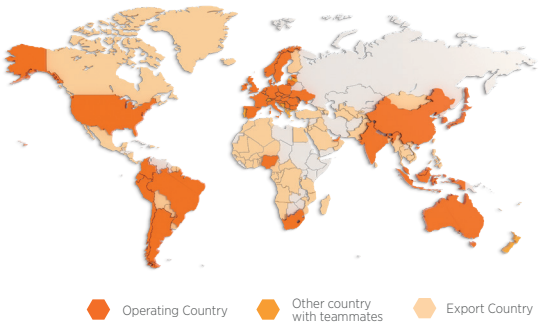
About Etex

Etex is a global building material manufacturer and pioneer in lightweight construction. Etex wants to inspire people around the world to build living spaces that are ever more safe, sustainable, smart and beautiful.

Founded in 1905, headquartered in Zaventem, Belgium, Etex is a family-owned company with more than 13,500 employees globally. It operates more than 160 sites in 45 countries and recorded a revenue of EUR 3.7 billion in 2022. Etex fosters a collaborative and caring culture, a pioneering spirit and a passion to always do better for its customers.



Etex has five R&D centres supporting five global divisions:

- Building Performance: dry construction solutions including plasterboards and fibre cement boards, plasters and formulated products, passive fire protection and associated products.
- Exteriors: a range of aesthetic fibre cement materials for use in agriculture, architectural and residential exteriors.
- Industry: fire protection and high-performance insulation products for the construction and OEM (Original Equipment Manufacturer) industries.
- Insulation: glass mineral wool and extruded polystyrene (XPS) for thermal and acoustic insulation.
- New Ways: high-tech offsite modular solutions based on wood and steel framing.

Etex's global portfolio includes leading commercial brands such as Promat, Kalsi, Siniat, Equitone, Eternit, Cedral, Durlock, Gyplac, Pladur, Superboard and URSA.

Etex is Inspiring Ways of Living, for more information, please visit our website: www.etexgroup.com