# FIBOLITE Thermal Bridging Values

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# **Issued by Plasmor Ltd**

	Inner leaf	100 mm Blockwork
Sill	Cavity	Insulation (see tables below)
Approved ψ-value = 0.04 W/mK	Outer leaf	102 mm Brick λ = 0.77

#### **Key Points**

- 1. Install a proprietary cavity closer (see options below)
- 2. Minimum frame overlap to be 30mm





#### Calculated $\psi$ -values and f-values for different insulation and cavity closer systems

	Plasmor Fibolite 3.6N inner leaf, plaster finish internally		Plasmor Fibolite 3.6N inne leaf, plasterboard on dabe	
Cavity Insulation <u>k=0.036 full-</u> fill	Ψ-value W/m·k	f-value	Ψ-value W/m·k	<i>f</i> -value
Cavalok cavity closer*	0.016	0.909	0.018	0.907
Thermabate cavity closer*	0.010	0.927	0.012	0.919

	Plasmor Fibolite 3.6N inner leaf, plaster finish internally		Plasmor Fibolite 3.6N inner leaf, plasterboard on dabs	
Cavity Insulation <u>k=0.032 full-</u> fill	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value
Cavalok cavity closer*	0.016	0.911	0.019	0.909
Thermabate cavity closer*	0.010	0.922	0.012	0.919

	Plasmor Fibolite 3.6N inner leaf, plaster finish internally		Plasmor Fibolite 3.6N inner leaf, plaster finish internally leaf, plasterboard on		3.6N inner rd on dabs
Cavity Insulation <u>k=0.022</u> partial-fill	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value	
Cavalok cavity closer*	0.025	0.893	0.027	0.890	
Thermabate cavity closer*	0.014	0.916	0.016	0.910	

\*Following manufacturer's installation guidelines

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings.

#### Temp [\*C] Calculations have been performed in 20 accordance with: 19 BS EN ISO 10211:2007 (British 18 17 16 • Standards) • IP 1/06 and BR497 (BRE Press) 15 And with reference to the following: 14 13 12 • EN ISO 6946 (British Standards) BR 443 (BRE Press) • 11 10 Calculation prepared by Jodie Evans – training completed 23/5/2012 with 'ACD Certification', Castleford. Calculated using HEAT 2 Software Version 8.03

# **On-site Checklist**

•	Minimum frame overlap to be 30mm	
•	Close the cavity with a proprietary cavity closer	

Type of cavity closer used .....

Name
Site name
Plot Number (s)
Date

Certificate No: PTM-025/026 Is	ssued : 31 July 2013
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# **Issued by Plasmor Ltd**

Jamb	Inner leaf	100 mm Blockwork
	Cavity	Insulation (see tables below)
Approved ψ-value = 0.05 W/mK	Outer leaf	102 mm Brick λ = 0.77



#### Calculated $\psi$ -values and f-values for different insulation and cavity closer systems

	Plasmor Fibolite 3.6N inner leaf, plaster finish internally		Plasmor Fibolite 3.6N inner leaf, plasterboard on dabs	
Cavity Insulation <u>k=0.036 full-</u> fill	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value
Cavalok cavity closer*	0.024	0.897	0.015	0.930
Thermabate cavity closer*	0.016	0.926	0.009	0.0.944

	Plasmor Fibolite 3.6N inner leaf, plaster finish internally		te 3.6N inner Plasmor Fibolite 3.6N in ish internally leaf, plasterboard on da	
Cavity Insulation <u>k=0.032 full-</u> fill	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value
Cavalok cavity closer*	0.024	0.900	0.015	0.935
Thermabate cavity closer*	0.016	0.927	0.011	0.945

\*Following manufacturer's installation guidelines

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings.

	Plasmor Fibolite 3.6N inner leaf, plaster finish internally		Plasmor Fibolite 3.6N inner leaf, plasterboard on dabs	
Cavity Insulation <u>k=0.022</u> partial-fill	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value
Cavalok cavity closer*	0.035	0.878	0.024	0.918
Thermabate cavity closer*	0.022	0.917	0.014	0.937



# **On-site Checklist**

•	Minimum frame overlap to be 30mm	
•	Close the cavity with a proprietary cavity closer	
Ту	ype of cavity closer used	

Name
Site name
Plot Number (s)
Date

Certificate No: PTM-070	Issued : 27 <sup>th</sup> January 2014

### **Issued by Plasmor Ltd**

Ground Floor	External wall construction	Brick outer, 100mm cavity, <b>100mm Fibolite</b> <b>3.6N block inner leaf</b> , internal finish
Table K.1 Ref E5 Approved ψ-value = 0.16 W/mK	Ground floor construction	Suspended beam and block floor using <b>100mm Plasmor Fibolite 7.3N block</b> (floor beams parallel to junction), floor insulation, 75mm screed finish



# Calculated $\psi$ -values and f-values for suspended beam and block floor – floor beams parallel to ground floor junction

	Fibolite 3.6N inner leaf, plaster finish		Fibolite 3.6N inner leaf, plasterboard on dabs	
Wall insulation k=0.036 full-fill	Ψ-value W/m⋅k	f-value	Ψ-value W/m⋅k	f-value
Floor insulation 100mm (k=0.022)	0.071	0.923	0.064	0.915
Floor insulation 150mm (k=0.022)	0.073	0.927	0.065	0.918
Floor insulation 250mm (k-0.038)	0.078	0.920	0.072	0.913

	Fibolite 3.6N inner leaf, plaster finish		Fibolite 3.6N inner leaf, plasterboard on dabs	
Wall insulation k=0.032 full-fill         Ψ-value           W/m·k         W/m·k		f-value	Ψ-value W/m⋅k	f-value
Floor insulation 100mm (k=0.022)	0.071	0.923	0.058	0.917
Floor insulation 150mm (k=0.022)	0.069	0.928	0.066	0.925
Floor insulation 250mm (k-0.038)	0.078	0.922	0.064	0.906

	Fibolite 3.6N inner leaf, plaster finish		Fibolite 3.6N inner leaf, plasterboard on dabs	
Wall insulation k=0.022 partial fill	Ψ-value W/m·k		Ψ-value W/m⋅k	f-value
Floor insulation 100mm (k=0.022)	0.066	0.923	0.057	0.923
Floor insulation 150mm (k=0.022)	0.072	0.926	0.058	0.909
Floor insulation 250mm (k-0.038)	0.077	0.921	0.064	0.905

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings.



# **On-site Checklist**

- Ensure cavity wall insulation carries on at least 150mm below the top of the floor insulation
- Ensure floor insulation tightly abuts the blockwork wall

Name
Site name
Plot Number (s)
Date

Issued : 23 <sup>rd</sup> January 2014

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Ground Floor	External wall construction	Brick outer, 100mm cavity, <b>100mm Fibolite</b> <b>3.6N block inner leaf</b> , internal finish
Table K.1 Ref E5 Approved ψ-value = 0.16 W/mK	Ground floor construction	Suspended beam and block floor using 100mm Plasmor Fibolite 7.3N block (floor beams perpendicular to junction), floor insulation, 75mm screed finish



# Calculated $\psi$ -values and f-values for suspended beam and block floor – floor beams perpendicular to ground floor junction

	Fibolite 3.6N inner leaf, plaster finish		leaf, Fibolite 3.6N inner leaf, plasterboard on dabs	
Wall insulation k=0.036 full-fill         Ψ-value           W/m·k         f-value		f-value	Ψ-value W/m·k	f-value
Floor insulation 100mm (k=0.022)	0.075	0.919	0.068	0.911
Floor insulation 150mm (k=0.022)	0.081	0.925	0.082	0.872
Floor insulation 250mm (k-0.038)	0.077	0.925	0.071	0.915

	Fibolite 3.6N inner leaf, plaster finish		Fibolite 3.6N inner leaf, plasterboard on dabs	
Wall insulation k=0.032 full-fill	Ψ-value W/m⋅k	f-value	Ψ-value W/m⋅k	f-value
Floor insulation 100mm (k=0.022)	0.076	0.927	0.069	0.913
Floor insulation 150mm (k=0.022)	0.073	0.927	0.082	0.876
Floor insulation 250mm (k-0.038)	0.077	0.931	0.071	0.917

	Fibolite 3.6N inner leaf, plaster finish		3.6N inner leaf, ster finish Fibolite 3.6N in plasterboard c	
Wall insulation k=0.022 partial fill	Ψ-value W/m⋅k	f-value	Ψ-value W/m⋅k	f-value
Floor insulation 100mm (k=0.022)	0.075	0.925	0.068	0.910
Floor insulation 150mm (k=0.022)	0.072	0.926	0.081	0.866
Floor insulation 250mm (k-0.038)	0.076	0.927	0.070	0.916

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings.



# **On-site Checklist**

- Ensure cavity wall insulation carries on at least 150mm below the top of the floor insulation
- Ensure floor insulation tightly abuts the blockwork wall

Name
Site name
Plot Number (s)
Date

Certificate No: PTM-074	Issued : 28 <sup>th</sup> January 2014

### **Issued by Plasmor Ltd**

Ground Floor	External wall construction	Brick outer, 100mm cavity, <b>100mm Fibolite</b> <b>3.6N block inner leaf</b> , internal finish
Table K.1 Ref E5 Approved ψ-value = 0.16 W/mK	Ground floor construction	Solid concrete floor, insulation above slab, 75mm screed finish



#### Calculated $\psi$ -values and f-values for solid concrete floor

	Fibolite 3.6N plaster	l inner leaf, finish	leaf, Fibolite 3.6N inner lea	
Wall insulation k=0.036 full-fill	Ψ-value W/m⋅k	f-value	Ψ-value W/m⋅k	f-value
Floor insulation 100mm (k=0.022)	0.071	0.837	0.068	0.846
Floor insulation 150mm (k=0.022)	0.071	0.871	0.072	0.869
Floor insulation 250mm (k-0.038)	0.080	0.868	0.075	0.854

	Fibolite 3.6N inner leaf, plaster finish		Fibolite 3.6N inner leaf, plaster finish plasterboard	
Wall insulation k=0.032 full-fill	Ψ-value W/m·k		Ψ-value W/m·k	f-value
Floor insulation 100mm (k=0.022)	0.072	0.864	0.068	0.850
Floor insulation 150mm (k=0.022)	0.069	0.875	0.072	0.872
Floor insulation 250mm (k-0.038)	0.079	0.873	0.075	0.858

	Fibolite 3.6N inner leaf, plaster finish		olite 3.6N inner leaf, plaster finish Fibolite 3.6N inn plaster board o	
Wall insulation k=0.022 partial fill	Ψ-value W/m⋅k	₽-value W/m·k <i>f</i> -value		f-value
Floor insulation 100mm (k=0.022)	0.062	0.867	0.057	0.842
Floor insulation 150mm (k=0.022)	0.063	0.876	0.064	0.874
Floor insulation 250mm (k-0.038)	0.071	0.874	0.067	0.861

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings.



# **On-site Checklist**

- Ensure cavity wall insulation carries on at least 150mm below the top of the floor insulation
- Ensure floor insulation tightly abuts the blockwork wall

Name
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Date

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Issued : 10<sup>th</sup> January 2014

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	Inner leaf	100 mm Blockwork
Eaves insulation	Cavity	Insulation
Table K.1 Ref E10	Outer leaf	102 mm Brick $\lambda$ = 0.77
= 0.06 W/mK	Roof	Mineral wool - various thicknesses (see table below)

### **Key Points**

1. Ensure continuity of insulation between the wall plate and the eaves ventilator





### Calculated $\psi$ -values and f-values for different wall and roof constructions

	Wall - Plasmor Fibolite 3.6N inner leaf			
	Roof - 450mm mir k=0.040 plaster	neral wool – internally	Roof – 450mm mi k=0.040 plasterbo internal	neral wool – ard on dabs ly
Cavity Insulation	Ψ-value W/m·k <i>f-</i> value		Ψ-value W/m·k	f-value
100mm λ=0.036	0.033	0.947	0.032	0.941
100mm λ=0.032	0.037	0.947	0.036	0.942
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.037	0.946	0.036	0.940

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	Wall - Plasmor Fibolite 3.6N inner leaf			
	Roof - 440mm min k=0.040 plaster	neral wool – internally	Roof - 440mm mii k=0.040 plasterbo internal	neral wool – ard on dabs ly
Cavity Insulation	Ψ-value W/m·k <i>f-</i> value		Ψ-value W/m·k	f-value
100mm λ=0.036	0.033	0.947	0.032	0.942
100mm λ=0.032	0.036	0.947	0.035	0.941
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.036	0.946	0.035	0.942

	Wall - Plasmor Fibolite 3.6N inner leaf			
	Roof - 440mm min k=0.04	neral wool – 4	Roof - 440mm min k=0.04	neral wool – 4
Cavity Insulation	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value
100mm λ=0.036	0.038	0.943	0.032	0.941
100mm λ=0.032	0.042	0.944	0.040	0.938
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.042	0.942	0.040	0.937

	Wall - Plasmor Fibolite 3.6N inner leaf				
	Roof - 400mm mineral wool – Roo k=0.044		Roof - 400mm mir k=0.04	Roof - 400mm mineral wool – k=0.044	
Cavity Insulation	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value	
100mm λ=0.036	0.036	0.943	0.035	0.937	
100mm λ=0.032	0.040	0.944	0.039	0.938	
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.040	0.942	0.037	0.937	

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings.

#### **Temperature Distribution**



#### **On-site Checklist**

• Ensure continuity of insulation between the wall plate and the eaves ventilator as per ACD MCI-RE-01

Name
Site name
Plot Number (s)
Date

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	Inner leaf	100 mm Blockwork
Gable insulation at	Cavity	Insulation
Table K.1 Ref E12	Outer leaf	102 mm Brick λ = 0.77
= 0.24 W/mK	Roof	Mineral wool - various thicknesses (see table below)



- 1. Pack insulation between the last truss/joist and gable wall
- 2. Carry the wall insulation at least up to the level of the roof insulation





# Calculated $\psi$ -values and f-values for different wall and roof constructions

	Wall - Plasmor Fibolite 3.6N inner leaf			
Roof insulation and wall finishRoof - 450mm mineral wool - k=0.040 plaster internallyRoof - k=0.040		Roof - 450mm mineral wool – k=0.040 plaster internally		neral wool – ard on dabs ly
Cavity Insulation	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value
100mm λ=0.036	0.156	0.902	0.151	0.916
100mm λ=0.032	0.154	0.907	0.149	0.919
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.155	0.902	0.150	0.918

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	Wall - Plasmor Fibolite 3.6N inner leaf			
Roof insulation and wall finish	Roof - 440mm mineral wool – k=0.040 plaster internally		Roof - 440mm mir k=0.040 plasterbo internal	neral wool – ard on dabs ly
Cavity Insulation	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value
100mm λ=0.036	0.154	0.901	0.164	0.897
100mm λ=0.032	0.152	0.906	0.147	0.906
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.154	0.909	0.148	0.906

	Wall - Plasmor Fibolite 3.6N inner leaf			
Roof insulation and wall finish	Roof - 440mm mineral wool – k=0.044 plaster internally		al wool – Reof - 440mm mineral wool – k=0.044 plasterboard on dabs internally	
Cavity Insulation	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value
100mm λ=0.036	0.154	0.895	0.149	0.915
100mm λ=0.032	0.151	0.899	0.147	0.919
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.153	0.909	0.148	0.918

	Wall - Plasmor Fibolite 3.6N inner leaf				
Roof insulation and wall finish	Roof - 400mm mineral wool – k=0.044 plaster internally		insulation and wall h Roof - 400mm mineral wool – k=0.044 plaster internally Roof - 400mm mineral wool – k=0.044 plasterboard on da internally		neral wool – ard on dabs ly
Cavity Insulation	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value	
100mm λ=0.036	0.155	0.905	0.148	0.914	
100mm λ=0.032	0.152	0.909	0.147	0.917	
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.153	0.908	0.148	0.917	

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings.

### **Temperature Distribution**



### **On-site Checklist**

- Ensure insulation is packed between last truss/joist and gable wall
- Carry wall insulation at least up to the level of roof insulation

Signed:

Name
Site name
Plot Number (s)
Date

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Certificate No: PTM-066	Issued : 15 <sup>th</sup> January 2014
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Intermediate floor within a dwelling	External wall construction	Brick outer, 100mm insulated cavity, 100mm Fibolite block inner leaf
Table K.1 Ref E6 Approved ψ-value = 0.07 W/mK	Intermediate floor	220mm timber joists, 22mm chipboard floor finish, plasterboard ceiling below. 100mm mineral wool between timber floor joists

### **Key Points**

1. Continue cavity wall insulation across floor abutment zone



#### Calculated $\psi$ -values and f-values for different cavity insulation systems

	Plasmor Fibolite 3.6N inner leaf, plaster internally		Plasmor Fibolite 3.6N inner leaf, plasterboard on dabs	
Wall insulation	Ψ-value W/m·k	f-value	Ψ-value W/m·k	f-value
100mm cavity batt (k=0.036)	-0.011	0.963	-0.008	0.964
100mm cavity batt (k=0.032)	-0.007	0.966	-0.007	0.968
50mm partial fill (k=0.022)	-0.010	0.964	-0.008	0.966

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings. Plasmor Ltd, PO Box 44, Womersley Road, Knottingley WF11 0DN 01977 673221 email: technical@plasmor.co.uk



#### Temperature Distribution

### **On-site Checklist**

• Ensure cavity wall insulation is carried across the floor abutment zone

Name
Site name
Plot Number (s)
Date

Certificate No: PTM-023	Issued : 30 July 2013
	1550CU . 30 JULY 2013

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	Inner leaf	100 mm Blockwork
Normal corner	Cavity	Insulation
Approved ψ-value = 0.09 W/mK	Outer leaf	102 mm Brick λ = 0.77



#### Calculated $\psi$ -values and f-values for different wall finish and cavity insulation systems

	Plasmor Fibolite 3.6N inner leaf, plaster finish internally		Plasmor Fibolite 3.6N inner leaf, plasterboard on dabs	
Cavity Insulation	Ψ-value W/m·k <i>f</i> -value		Ψ-value W/m·k	f-value
100mm λ=0.036	0.060	0.908	0.057	0.902
100mm λ=0.032	0.056	0.915	0.054	0.910
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.056	0.912	0.053	0.908

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings.

	Plasmor Fibolite 7.3N inner leaf, plaster finish internally		Plasmor Fibolite 7.3N inner leaf, plasterboard on dabs	
Cavity Insulation	Ψ-value W/m·k f-value		Ψ-value W/m·k	f-value
100mm λ=0.036	0.062	0.907	0.059	0.905
100mm λ=0.032	0.058	0.915	0.055	0.910
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	0.057	0.912	0.055	0.907



# **On-site Checklist**

• Ensure continuity of insulation at the corner

Name
Site name
Plot Number (s)
Date

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	Inner leaf	100 mm Blockwork
Inverted corner	Cavity	Insulation
Approved ψ-value = -0.09 W/mK	Outer leaf	102 mm Brick λ = 0.77

#### **Key Points**

1. Ensure continuity of insulation at the corner



#### Calculated $\psi$ -values and f-values for different wall finish and cavity insulation systems

	Plasmor Fibolite 3.6N inner leaf, <u>plaster finish internally</u>		Plasmor Fibolite 3.6Ninner leaf, <u>plasterboard on dabs</u>	
Cavity Insulation	Ψ-value W/m·k <i>f</i> -value		Ψ-value W/m·k	f-value
100mm λ=0.036	-0.108	0.963	-0.108	0.965
100mm λ=0.032	-0.099	0.966	-0.099	0.998
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	-0.109	0.964	-0.099	0.998

The f-value should be above 0.75 to minimise the risk of mould growth in dwellings.

	Plasmor Fibolite 7.3N inner leaf, <u>plaster finish internally</u>		Plasmor Fibolite 7.3Ninner leaf, <u>plasterboard on dabs</u>	
Cavity Insulation	Ψ-value W/m·k <i>f</i> -value		Ψ-value W/m·k	f-value
100mm λ=0.036	-0.110	0.962	-0.109	0.964
100mm λ=0.032	-0.101	0.966	-0.100	0.967
50mm partial fill $\lambda = 0.022$ (with 50mm clear - low E cavity)	-0.110	0.964	-0.099	0.966



# **On-site Checklist**

• Ensure continuity of insulation at the corner

Name
Site name
Plot Number (s)
Date