

# FIRE RESISTANCE OF CLT JOINTS

TEST REPORT



**rothoblaas**

Solutions for Building Technology
































# FIRE SOLUTIONS RANGE
















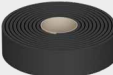


## LINEAR JOINTS

PRODUCT	DESCRIPTION		
PROTECT	SELF-ADHESIVE BUTYL BAND, CAN BE PLASTERED		
CONSTRUCTION SEALING	COMPRESSIBLE SEALING GASKET FOR REGULAR JOINTS		
SPEEDY BAND	UNIVERSAL SINGLE-SIDED TAPE WITHOUT RELEASE LINER		
FLEXI BAND	UNIVERSAL SINGLE-SIDED HIGH-ADHESIVE TAPE		
INVISI BAND	TRANSPARENT SINGLE-SIDED ADHESIVE TAPE WITHOUT LINER, RESISTANT TO UV AND HIGH TEMPERATURES		
EXPAND BAND	SELF-EXPANDING SEALING TAPE		
FIRE FOAM	HIGH FIRE-RESISTANT SEALING POLYURETHANE FOAM		
FIRE SEALING ACRYLIC	HIGH FIRE-RESISTANT ACRYLIC SEALANT		
FIRE SEALING SILICONE	HIGH FIRE-RESISTANT ACRYLIC SEALANT		
FIRE STRIPE GRAPHITE	FLEXIBLE INTUMESCENT GASKET		
SUPRA BAND	UNIVERSAL DOUBLE-SIDED BUTYL TAPE WITH HIGH ADHESION		
MANICA PLASTER	ADHESIVE SEALING SLEEVE THAT CAN BE PLASTERED		
DEFENCE ADHESIVE	SELF-ADHESIVE PROTECTIVE MEMBRANE		
XYLOFON	HIGH PERFORMANCE RESILIENT SOUNDPROOFING PROFILE		

# WALLS, ROOFS AND FLOORS

PRODUCT	DESCRIPTION		
MULTI BAND UV	SPECIAL UV-RESISTANT HIGH-ADHESION TAPE		
FRONT BAND UV 210	UNIVERSAL SINGLE-SIDED TAPE, HIGHLY RESISTANT TO UV RAYS		
BARRIER ALU NET SD1500	REFLECTIVE VAPOUR BARRIER Sd > 1500 m		
BARRIER ALU NET ADHESIVE 300	SELF-ADHESIVE REFLECTIVE VAPOUR BARRIER Sd > 1500 m		
BARRIER ALU FIRE A2 SD2500	REFLECTIVE AIR VAPOUR BARRIER FIRE REACTION CLASS A2-s1,d0		
TRASPIR EVO UV 115	BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS	 	
TRASPIR EVO 160	MONOLITHIC BREATHABLE MEMBRANE	  	
TRASPIR FELT EVO UV 210	BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS		
TRASPIR EVO UV 210	HIGHLY BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS	  	
TRASPIR EVO UV ADHESIVE	SELF-ADHESIVE BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS		
TRASPIR EVO 300	HIGHLY BREATHABLE MONOLITHIC MEMBRANE		
TRASPIR ALU FIRE A2 430	REFLECTIVE HIGHLY BREATHABLE MEMBRANE		

# SERVICE PENETRATIONS

PRODUCT	DESCRIPTION		
MASS	INTUMESCENT BRICK FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS		
UNICOLLUM	ROLL OF FIRESTOP RING FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS		
COLLUM	FIRESTOP RING FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS		
SACCUS	FIREPROOF BAG FOR CABLE TRAY PENETRATIONS		
PANNUS	FIREPROOF COVER FOR METAL PIPE PENETRATIONS		
PANEL	PANEL WITH FIREPROOF COATING		
SEAL W	FIREPROOF ACRYLIC SEALANT		
FIRE STRIPE GRAPHITE PRO	FIRE CUFF FOR INSULATED METAL PIPES AND ELECTRICAL CABLES		
GRAPHIT FOAM	TWO-COMPONENT FIREPROOF POLYURETHANE FOAM SUPPLEMENTED WITH GRAPHITE		



# FIRE RESISTANCE OF CLT JOINTS

The project aims to measure the fire resistance performance of certain types of CLT joints through a series of tests.

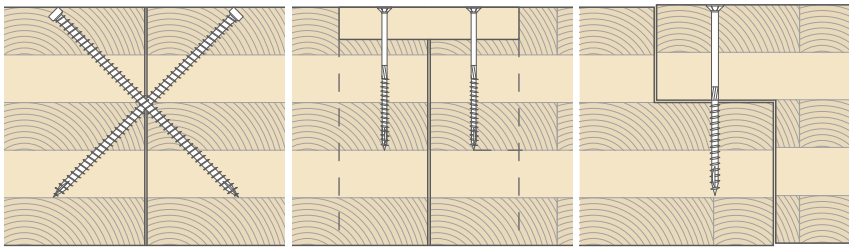
The tests were carried out according to UNI EN 1363-1:2020 "**Fire resistance tests - Part 1: General requirements**" in which the general principles for determining the fire resistance of various building elements subjected to standardised fire exposure conditions are defined. The specimen is exposed to fire from below (intrados).

## PROPERTY OF THE MATERIAL

CLT			
Wood species [type]	Fir		
Denisty [kg/m <sup>3</sup> ]	350-420		
Reaction to fire class	D-s2,d0		
Number of layers [no.]	5		
TYPE OF ELEMENT	WALL	FLOOR SLAB	FLOOR SLAB
Thickness (mm)	100	120	200



## TYPES OF JOINT



SIMPLE

WITH JOINT COVER PLATE

HALF-LAP JOINT

## PERFORMANCE CRITERIA

The criteria for assessing the performance of the test specimen are detailed in EN 1363-1: 2020. The performance of the test specimen is measured by the time, expressed in full minutes (i.e. net of seconds), in which the specimen continues to meet the performance criteria described below.

### TIGHTNESS

The time in full minutes during which the specimen continues to maintain its separation function without:

- causing a cotton swab to ignite
- allowing the penetration of a feeler gauge
- developing persistent flames

### INSULATION

The time in full minutes during which the specimen continues to maintain its separation function, without developing temperatures on the surface not exposed to fire that exceed the initial average temperature at all sensor positions (including the moving thermocouple) by 180 K.

*Note: increments refer to the average initial temperature measured on the side not exposed to fire of the test specimen.*

## TESTED PRODUCTS

### MANICA PLASTER (PROTECT)

SELF-ADHESIVE BUTYL BAND,  
CAN BE PLASTERED

### CONSTRUCTION SEALING

COMPRESSIBLE SEALING  
GASKET FOR REGULAR JOINTS

### SPEEDY BAND

SELF-EXPANDING  
SEALING TAPE

### FLEXI BAND

UNIVERSAL SINGLE-SIDED  
HIGH-ADHESION TAPE

### INVISI BAND

WATER- AND HEAT-RESISTANT  
ADHESIVE TAPE, TRANSPARENT

### EXPAND BAND

SELF-EXPANDING  
SEALING TAPE

### FIRE FOAM

HIGH FIRE-RESISTANT  
SEALING FOAM

### FIRE SEALING ACRYLIC

HIGH FIRE-RESISTANT  
ACRYLIC SEALANT

### FIRE SEALING SILICONE

HIGH FIRE-RESISTANT SILICONE  
SEALANT

### FIRE STRIPE GRAPHITE

FLEXIBLE INTUMESCENT  
GASKET

### SUPRA BAND

FLEXIBLE INTUMESCENT  
GASKET

### DEFENCE ADHESIVE

SELF-ADHESIVE PROTECTIVE  
MEMBRANE

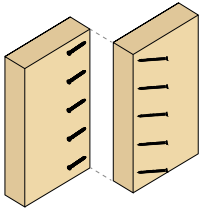
### XYLOFON

HIGH PERFORMANCE RESILIENT  
SOUNDPROOFING PROFILE

# SUMMARY TABLE

## LINEAR JOINTS ON WALL WITH A MINIMUM THICKNESS OF 100 mm

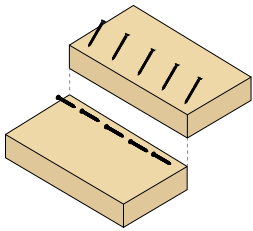
GAP 2 - 20 mm



1ST SEALING LEVEL	2ND SEALING LEVEL		
FLEXI BAND	FIRE STRIPE GRAPHITE	Joint v100 1	page 8
FIRE SEALING SILICONE		Joint v100 2	page 9
FIRE SEALING ACRYLIC		Joint v100 3	page 10
FIRE FOAM		Joint v100 4	page 11
SPEEDY BAND		Joint v100 5	page 12
SUPRA BAND	SUPRA BAND	Joint v100 6	page 13
EXPAND BAND	EXPAND BAND	Joint v100 7	page 14
CONSTRUCTION SEALING		Joint v100 8	page 15
INVISI BAND		Joint v100 9	page 16

## LINEAR JOINTS ON FLOOR SLAB WITH A MINIMUM THICKNESS OF 120 mm

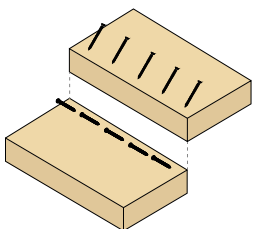
GAP 2 - 20 mm



1ST SEALING LEVEL	2ND SEALING LEVEL		
MANICA PLASTER (PROTECT)	FIRE STRIPE GRAPHITE	Joint h120 1	page 17
FLEXI BAND	FIRE STRIPE GRAPHITE	Joint h120 2	page 18
FIRE SEALING SILICONE		Joint h120 3	page 19
FIRE SEALING ACRYLIC		Joint h120 4	page 20
FIRE FOAM		Joint h120 5	page 21
FIRE FOAM	FIRE FOAM	Joint h120 6	page 22
SPEEDY BAND		Joint h120 7	page 23
DEFENCE ADHESIVE		Joint h120 8	page 24
SUPRA BAND	SUPRA BAND	Joint h120 9	page 25
EXPAND BAND	EXPAND BAND	Joint h120 10	page 26
CONSTRUCTION SEALING		Joint h120 10	page 27
DEFENCE ADHESIVE		Joint h120 12	page 28
XYLOFON		Joint h120 13	page 29

## LINEAR JOINTS ON FLOOR SLAB WITH A MINIMUM THICKNESS OF 200 mm

GAP 2 - 10 mm

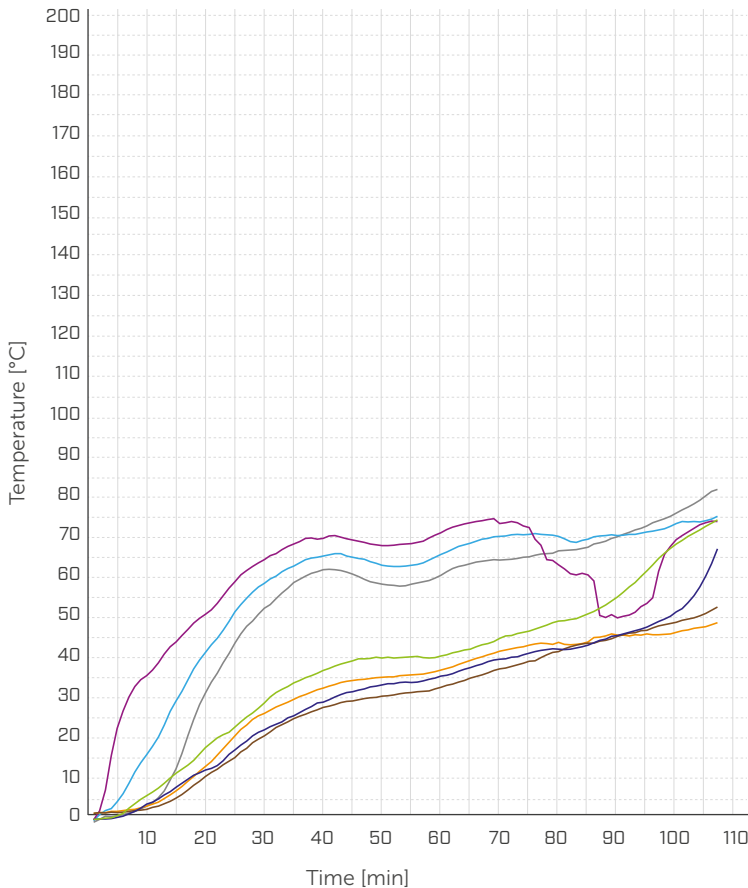
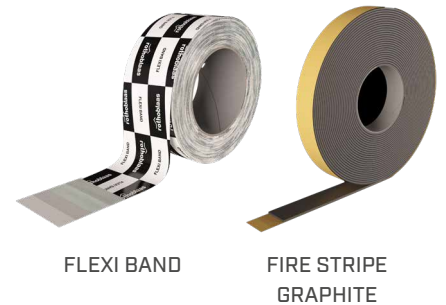
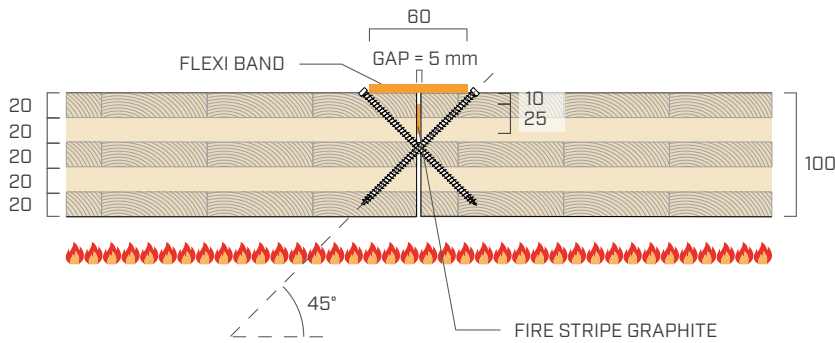


1ST SEALING LEVEL	2ND SEALING LEVEL		
FLEXI BAND		Joint h200 1	page 30
	FIRE SEALING SILICONE	Joint h200 2	page 31
	FIRE SEALING ACRYLIC	Joint h200 3	page 32
	FIRE STRIPE GRAPHITE	Joint h200 4	page 33
FLEXI BAND	FIRE SEALING SILICONE	Joint h200 5	page 34
FLEXI BAND	FIRE STRIPE GRAPHITE	Joint h200 6	p. 35
EXPAND BAND		Joint h200 7	page 36
EXPAND BAND	EXPAND BAND	Joint h200 8	page 37
EXPAND BAND	EXPAND BAND	Joint h200 9	page 38
FLEXI BAND	FIRE STRIPE GRAPHITE	Joint h200 10	page 39
CONSTRUCTION SEALING	CONSTRUCTION SEALING	Joint h200 11	page 40
CONSTRUCTION SEALING	FIRE STRIPE GRAPHITE	Joint h200 12	page 41
EXPAND BAND	FIRE STRIPE GRAPHITE	Joint h200 13	page 42
FLEXI BAND	FIRE STRIPE GRAPHITE	Joint h200 14	page 43
FIRE SEALING SILICONE		Joint h200 15	page 44
FIRE FOAM	FIRE FOAM	Joint h200 16	page 45

# JOINT v100 | 1 - TEST REPORT

SIMPLE JOINT WITH VGZ7120 CROSSED SCREWS, 5 mm GAP AND FIRE STRIPE GRAPHITE + FLEXI BAND

TOP SEALANT	FLEXI BAND
<b>Description</b>	Universal single-sided high-adhesive tape
<b>Material</b>	PE film/glue/reinforcing polyester grid
<b>Width [mm]</b>	60
BOTTOM SEALANT	FIRE STRIPE GRAPHITE
<b>Description</b>	Flexible intumescent gasket
<b>Material</b>	Graphite
<b>Width [mm]</b>	25
<b>Thickness [mm]</b>	1,5



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 106 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 106 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

### LEGEND:

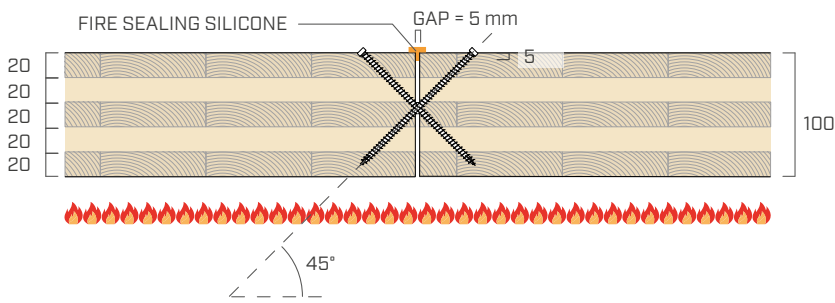
TC 01 - non-exposed face	TC 03 - non-exposed face	TC 05 - non-exposed face	TC 07 - non-exposed face
TC 02 - non-exposed face	TC 04 - non-exposed face	TC 06 - non-exposed face	



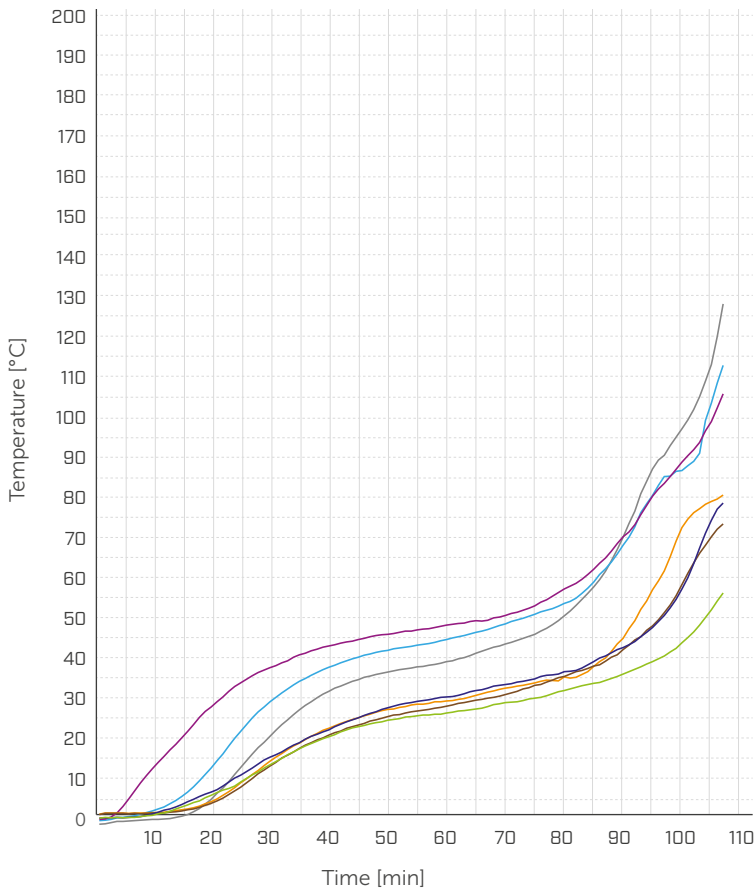
# JOINT v100 | 2 - TEST REPORT

SIMPLE JOINT WITH CROSSED SCREWS VGZ7120, 5 mm GAP AND FIRE SEALING SILICONE



TOP SEALANT	FIRE SEALING SILICONE
<b>Description</b>	High fire-resistant silicone sealant
<b>Material</b>	Silicone
BOTTOM SEALANT	without sealant



FIRE SEALING SILICONE



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 106 minutes	 EI 90
	Persistent flame		 RFLS- /90/90/90 AS 1530.4
<b>INSULATION (I)</b>	Time	> 106 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

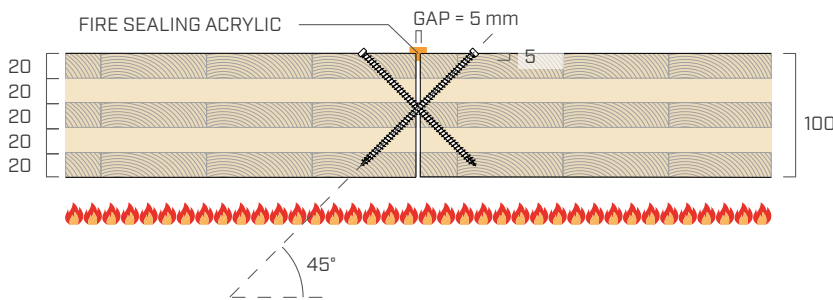
### LEGEND:

- TC 01 - non-exposed face
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - non-exposed face
- TC 04 - non-exposed face
- TC 06 - non-exposed face

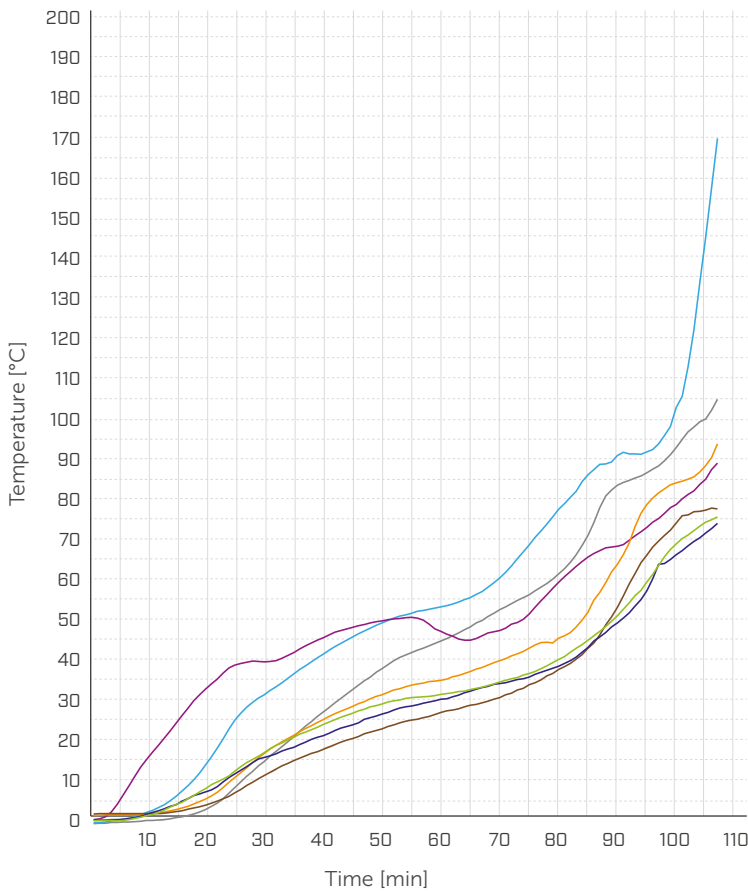
# JOINT v100 | 3 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7120, 5 mm GAP AND FIRE SEALING ACRYLIC

<b>TOP SEALANT</b>	<b>FIRE SEALING ACRYLIC</b>
<b>Description</b>	High fire-resistant acrylic sealant
<b>Material</b>	Acrylic polymers in aqueous dispersion
<b>BOTTOM SEALANT</b>	<b>without sealant</b>



FIRE SEALING ACRYLIC



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 106 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 106 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

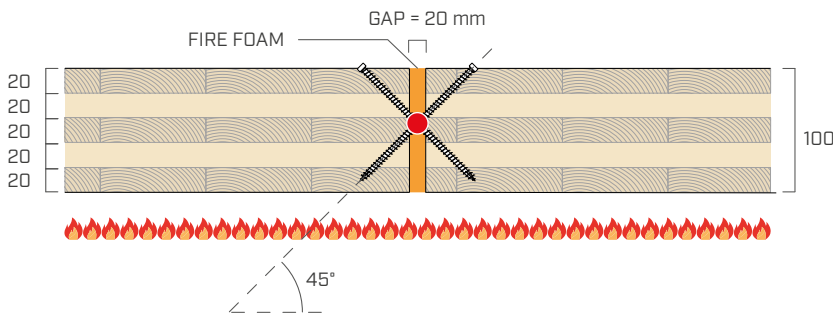
#### LEGEND:

- TC 01 - non-exposed face
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - non-exposed face
- TC 04 - non-exposed face
- TC 06 - non-exposed face

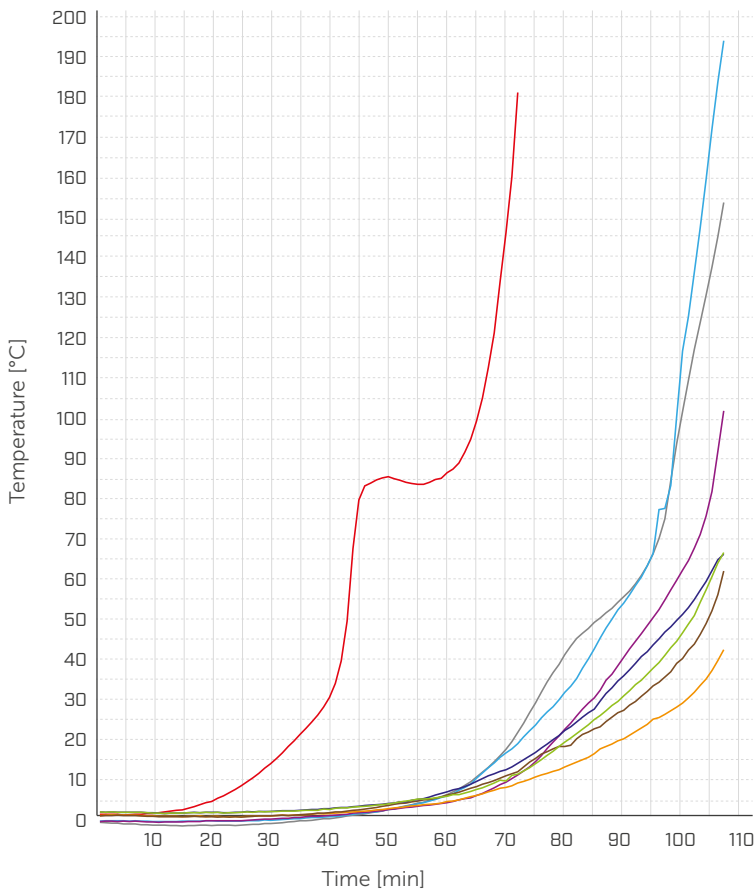
# JOINT v100 | 4 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7120, 20 mm GAP AND FIRE FOAM

SEALANT	FIRE FOAM
<b>Description</b>	High fire-resistant sealing foam
<b>Material</b>	Single component PU



FIRE FOAM



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 106 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	105 minutes	

ΔT measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	65	< 180°C
on the unexposed face of the slab	TC 07	104	170°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

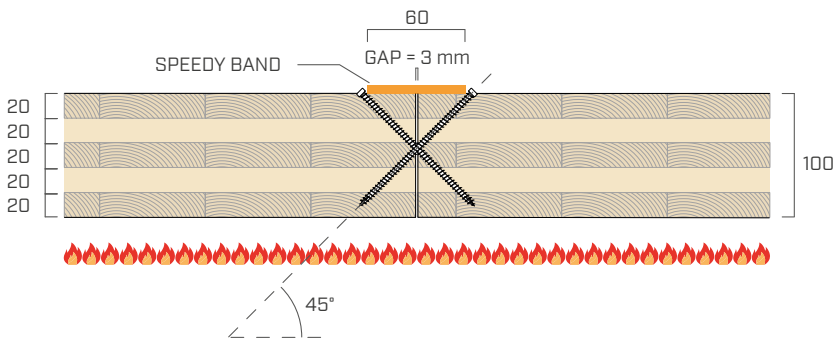
#### LEGEND:

<span style="color: red;">—</span> TC 01 - 60 mm from bottom	<span style="color: blue;">—</span> TC 03 - non-exposed face	<span style="color: orange;">—</span> TC 05 - non-exposed face	<span style="color: lightblue;">—</span> TC 07 - non-exposed face
<span style="color: green;">—</span> TC 02 - non-exposed face	<span style="color: brown;">—</span> TC 04 - non-exposed face	<span style="color: purple;">—</span> TC 06 - non-exposed face	<span style="color: grey;">—</span> TC 08 - non-exposed face

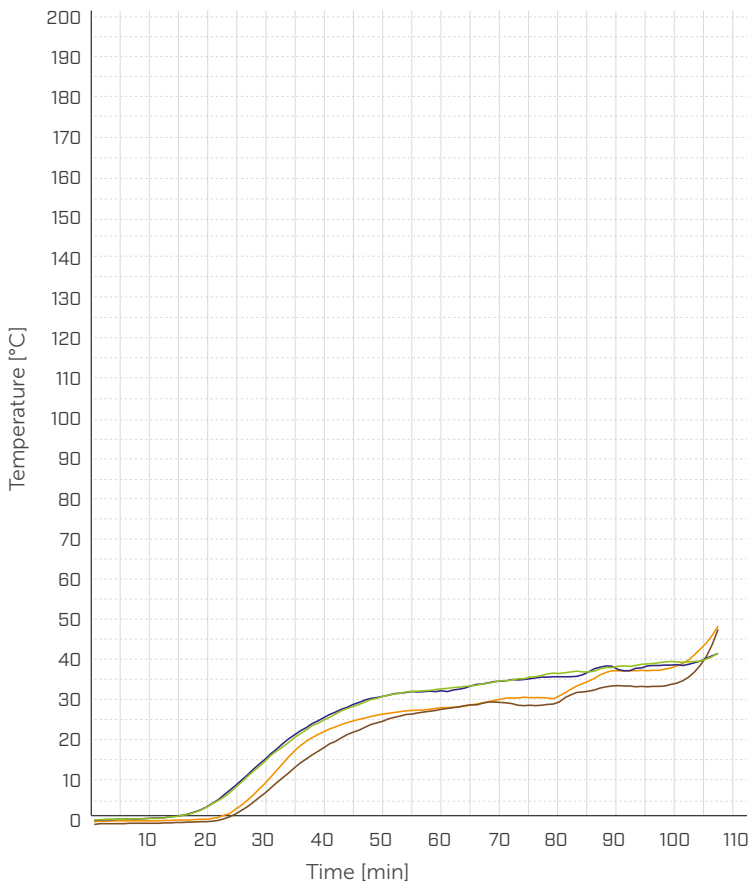
# JOINT v100 | 5 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7120, 3 mm GAP AND SPEEDY BAND




TOP SEALANT	SPEEDY BAND
<b>Description</b>	Universal tape without release liner
<b>Material</b>	Pe film/reinforcing grid/acrylic glue UV
<b>Width [mm]</b>	60
BOTTOM SEALANT	without sealant



SPEEDY BAND



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 106 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 106 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

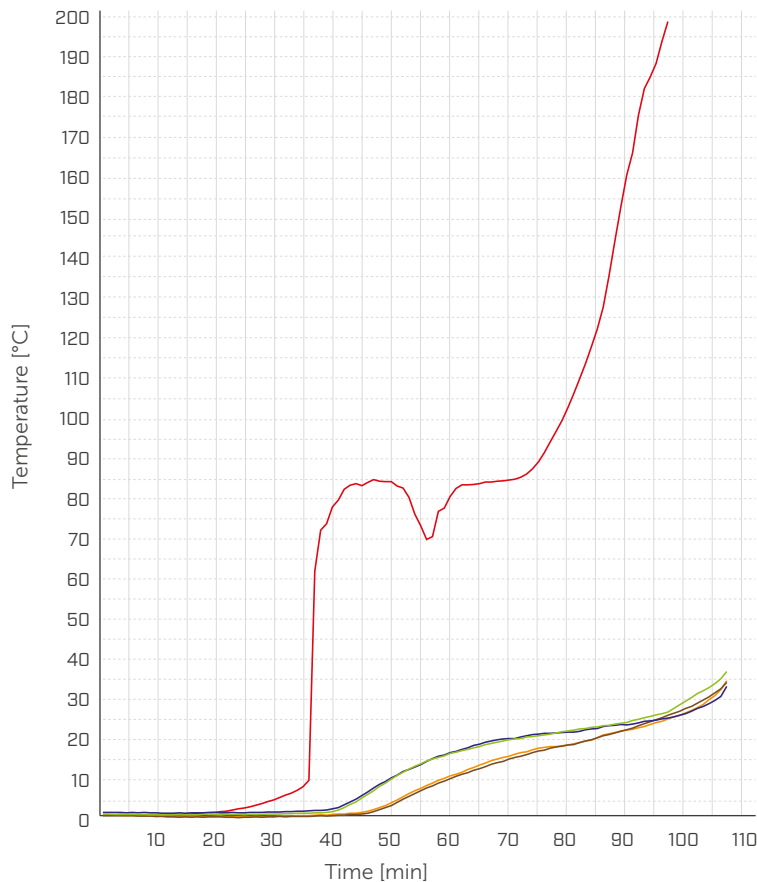
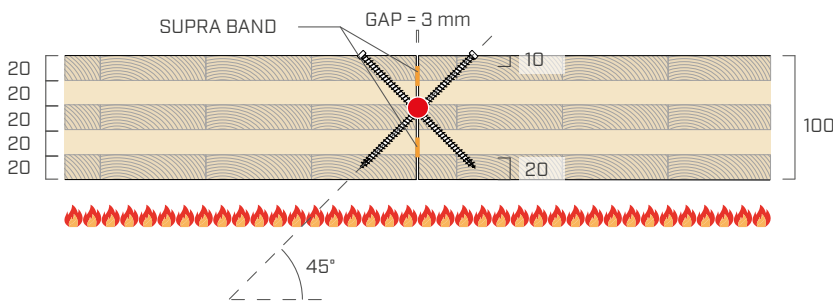
#### LEGEND:

- TC 01 - non-exposed face
- TC 02 - non-exposed face
- TC 03 - non-exposed face
- TC 04 - non-exposed face

# JOINT v100 | 6 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7120, 3 mm GAP AND SUPRA BAND

TOP SEALANT	SUPRA BAND
<b>Description</b>	Universal double-sided butyl tape with high adhesiveness
<b>Material</b>	Grey adhesive butyl compound
<b>Width [mm]</b>	6
<b>Thickness [mm]</b>	4
BOTTOM SEALANT	SUPRA BAND
<b>Description</b>	Universal double-sided butyl tape with high adhesiveness
<b>Material</b>	Grey adhesive butyl compound
<b>Width [mm]</b>	6
<b>Thickness [mm]</b>	4



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 106 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 106 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	80	< 180°C
on the unexposed face of the slab	TC 04	106	34°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

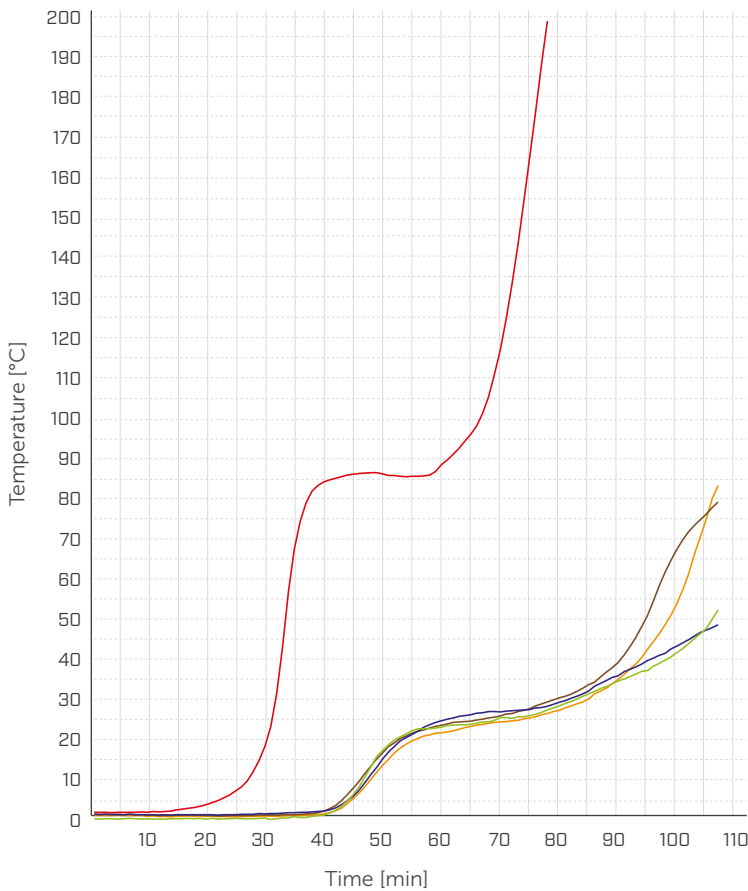
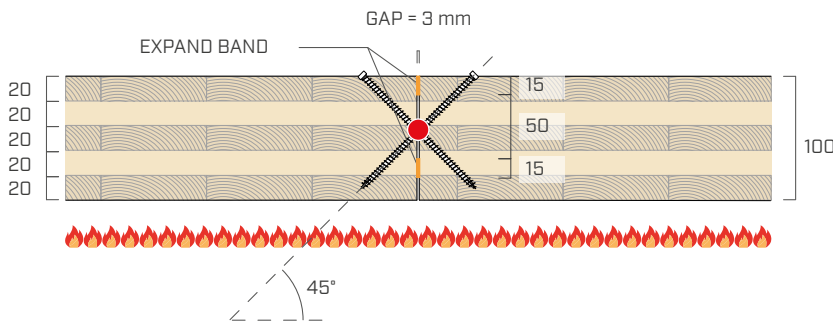
#### LEGEND:

- TC 01 - 60 mm from bottom
- TC 02 - non-exposed face
- TC 03 - non-exposed face
- TC 04 - non-exposed face
- TC 05 - non-exposed face

# JOINT v100 | 7 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7120, 3 mm GAP AND EXPAND BAND

TOP SEALANT	EXPAND BAND
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic PU foam with additives
<b>Width [mm]</b>	15
BOTTOM SEALANT	EXPAND BAND
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic PU foam with additives
<b>Width [mm]</b>	15



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 106 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 106 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
• 60 mm from slab bottom (non-exposed face)	TC 01	60	< 180°C
on the unexposed face of the slab	TC 04	106	78°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

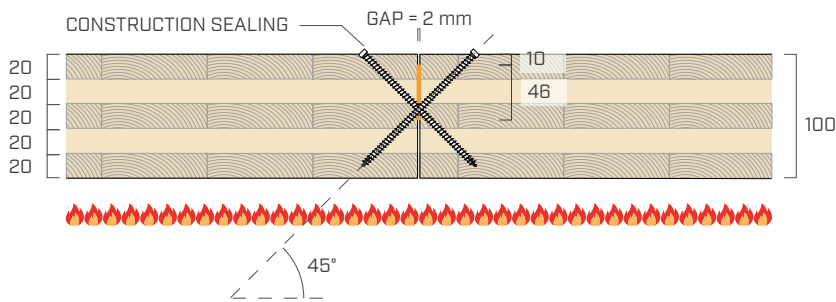
#### LEGEND:

- TC 01 - 60 mm from bottom
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 02 - non-exposed face
- TC 04 - non-exposed face

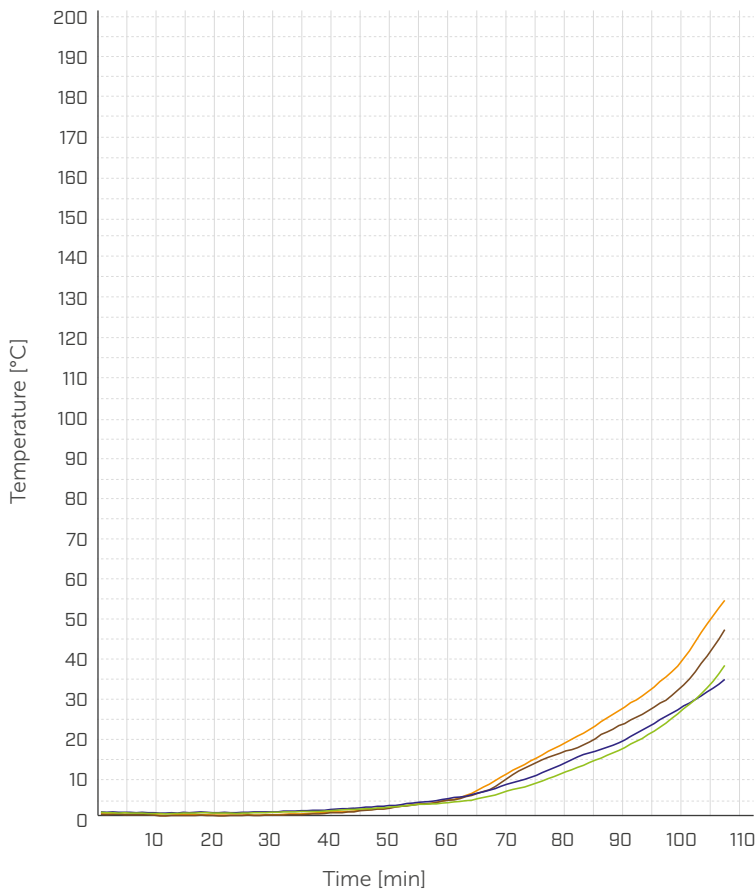
# JOINT v100 | 8 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7120, 2 mm GAP AND CONSTRUCTION SEALING



TOP SEALANT	CONSTRUCTION SEALING
<b>Description</b>	Compressible seal for regular joints
<b>Material</b>	Extruded EPDM
<b>Width [mm]</b>	46
<b>Thickness [mm]</b>	3



CONSTRUCTION SEALING



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 106 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 106 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

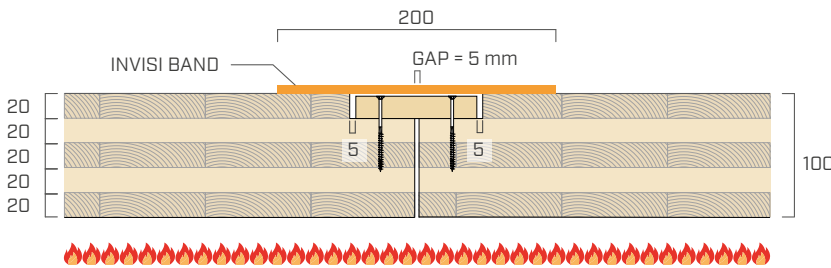
#### LEGEND:

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- TC 02 - non-exposed face
- TC 03 - non-exposed face
- TC 04 - non-exposed face

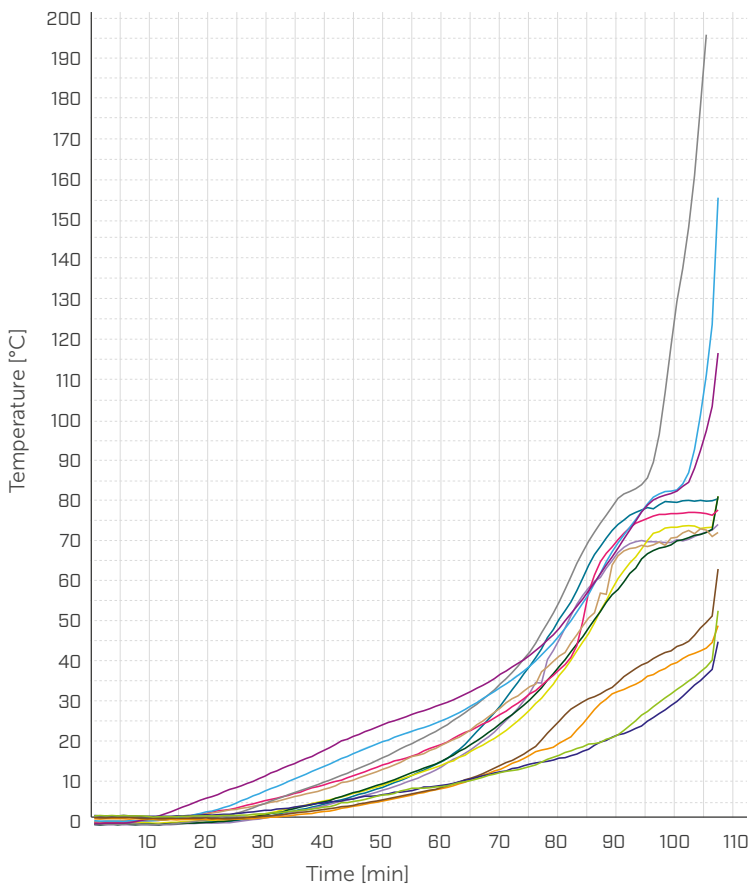
# JOINT v100 | 9 - TEST REPORT

JOINT WITH COVER PLATE AND PARTIAL THREAD SCREWS SHS3560, 5 mm GAP AND INVISI BAND




TOP SEALANT	INVISI BAND
<b>Description</b>	Transparent adhesive tape without liner, resistant to UV rays and high temperatures
<b>Material</b>	PE film/reinforcing grid/acrylic glue
<b>Width [mm]</b>	200
BOTTOM SEALANT	without sealant



INVISI BAND
















## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	<b>105 minutes</b>	
	Persistent flame		
<b>INSULATION (I)</b>	Time	<b>&gt; 104 minutes</b>	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

### LEGEND:

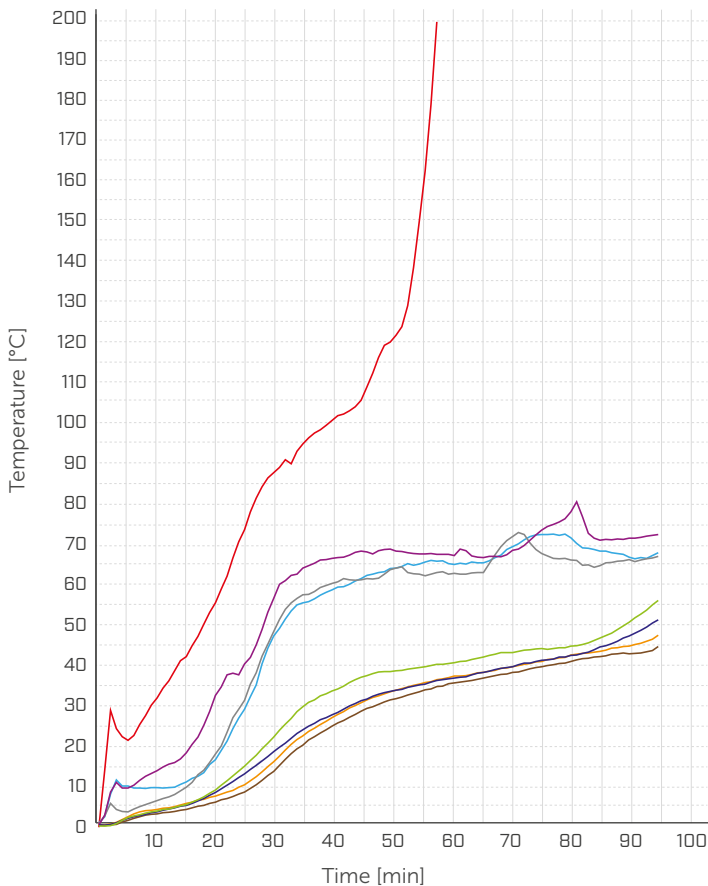
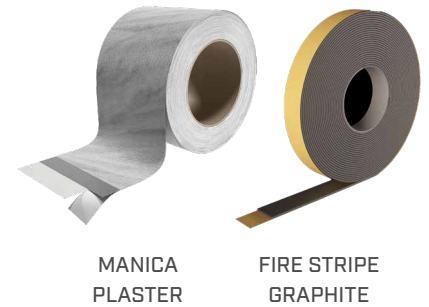
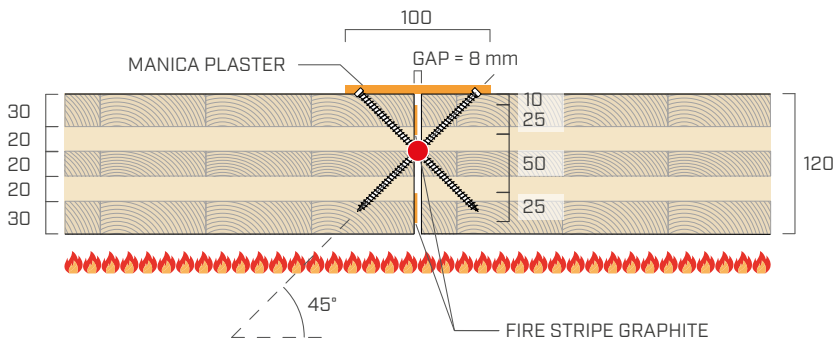
 TC 01 - non-exposed face	 TC 05 - non-exposed face	 TC 08 - non-exposed face	 TC 11 - non-exposed face
 TC 02 - non-exposed face	 TC 06 - non-exposed face	 TC 09 - non-exposed face	 TC 12 - non-exposed face
 TC 03 - non-exposed face	 TC 07 - non-exposed face	 TC 10 - non-exposed face	 TC 13 - non-exposed face
 TC 04 - non-exposed face			



# JOINT h120 | 1 - TEST REPORT

SIMPLE JOINT WITH VGZ7140 CROSSED SCREWS, 8 mm GAP AND FIRE STRIPE GRAPHITE + MANICA PLASTER (PROTECT)

TOP SEALANT	MANICA PLASTER (PROTECT)
<b>Description</b>	Adhesive butyl compound
<b>Material</b>	Non-woven PP fabric/grey adhesive butyl compound
<b>Width [mm]</b>	100
BOTTOM SEALANTS	FIRE STRIPE GRAPHITE
<b>Description</b>	Flexible intumescent gasket
<b>Material</b>	Graphite
<b>Width [mm]</b>	25
<b>Thickness [mm]</b>	1,5



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	50	< 180°C
on the unexposed face of the slab	TC 03	96	50°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

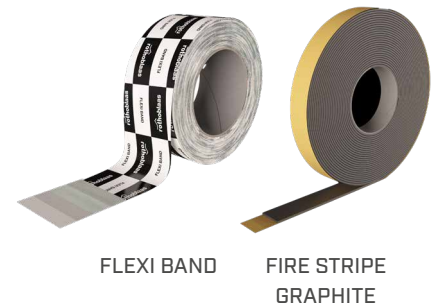
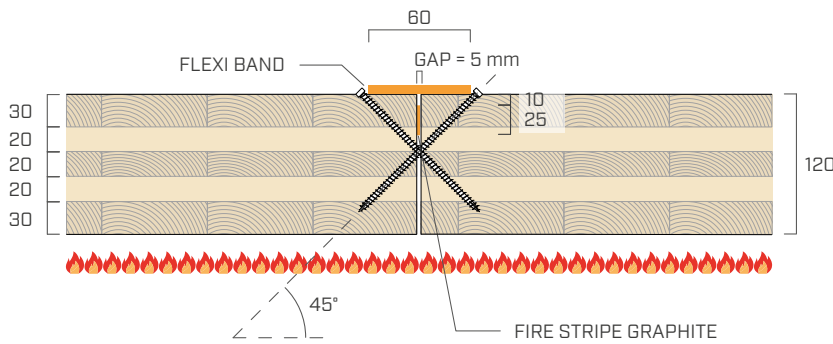
### LEGEND:

- TC 01 - 60 mm from bottom
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - non-exposed face
- TC 04 - non-exposed face
- TC 06 - non-exposed face
- TC 08 - non-exposed face

# JOINT h120 | 2 - TEST REPORT

SIMPLE JOINT WITH VGZ7140 CROSSED SCREWS, 5 mm GAP AND FIRE STRIPE GRAPHITE + FLEXI BAND

TOP SEALANT	FLEXI BAND
<b>Description</b>	Universal high-adhesive tape
<b>Material</b>	PE film/glue/reinforcing polyester grid
<b>Width [mm]</b>	60
BOTTOM SEALANT	FIRE STRIPE GRAPHITE
<b>Description</b>	Flexible intumescent gasket
<b>Material</b>	Graphite
<b>Width [mm]</b>	25
<b>Thickness [mm]</b>	1,5



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

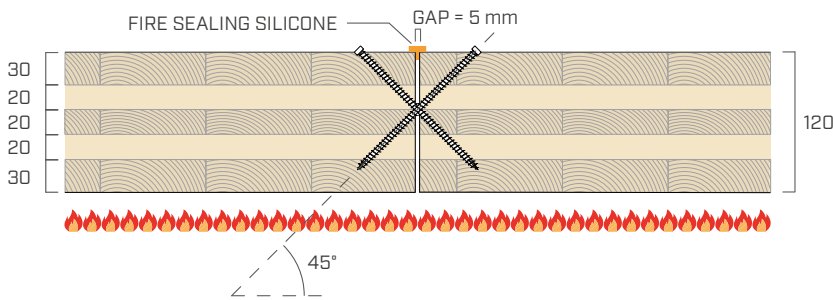
### LEGEND:

- TC 01 - non-exposed face
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - non-exposed face
- TC 04 - non-exposed face
- TC 06 - non-exposed face

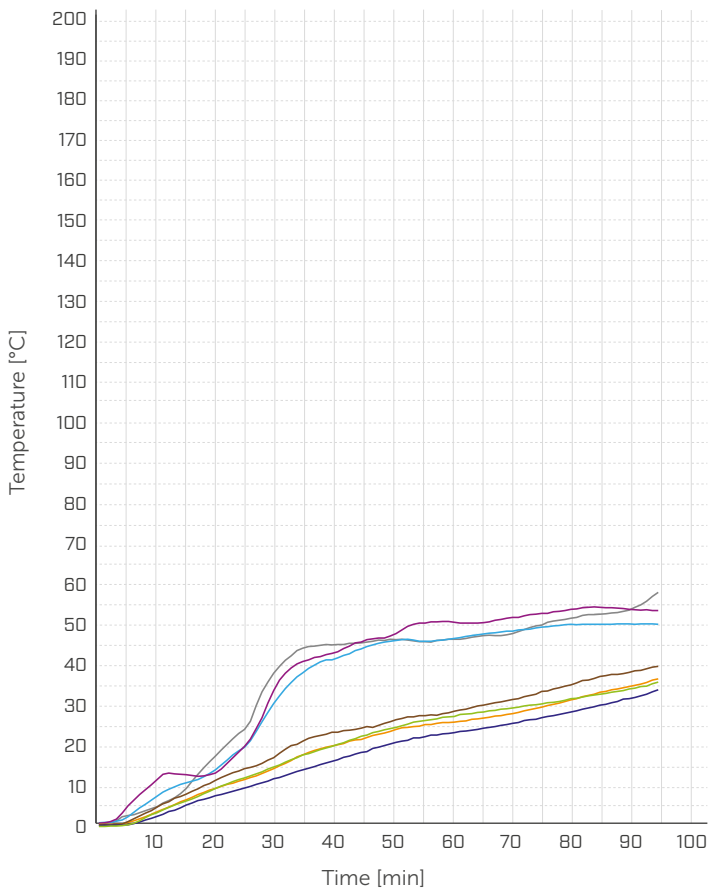
# JOINT h120 | 3 - TEST REPORT

SIMPLE JOINT WITH CROSSED SCREWS VGZ7140, 5 mm GAP AND FIRE SEALING SILICONE



TOP SEALANT	FIRE SEALING SILICONE
<b>Description</b>	High fire-resistant silicone sealant
<b>Material</b>	Silicone
BOTTOM SEALANT	without sealant



FIRE SEALING SILICONE



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

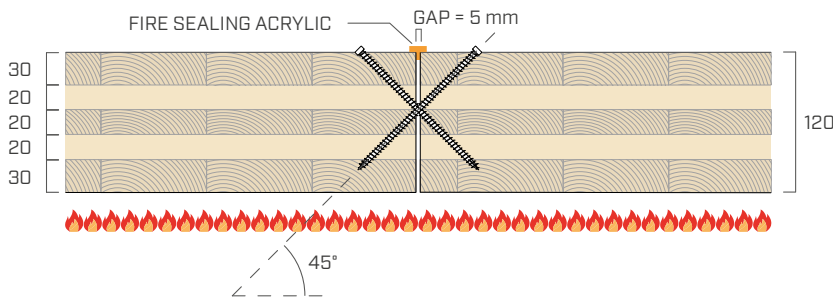
### LEGEND:

- TC 01 - non-exposed face
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - non-exposed face
- TC 04 - non-exposed face
- TC 06 - non-exposed face

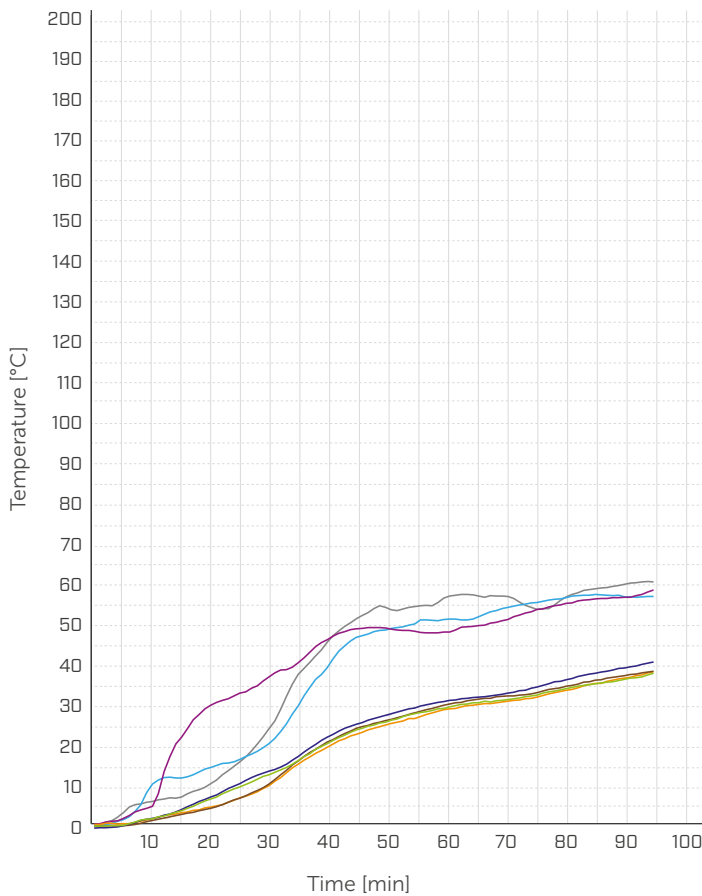
# JOINT h120 | 4 - TEST REPORT

SIMPLE JOINT WITH CROSSED SCREWS VGZ7140, 5 mm GAP AND FIRE SEALING ACRYLIC

<b>TOP SEALANT</b>	<b>FIRE SEALING ACRYLIC</b>
<b>Description</b>	High fire-resistant acrylic sealant
<b>Material</b>	Acrylic polymers in aqueous dispersion
<b>BOTTOM SEALANT</b>	<b>without sealant</b>



FIRE SEALING ACRYLIC



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

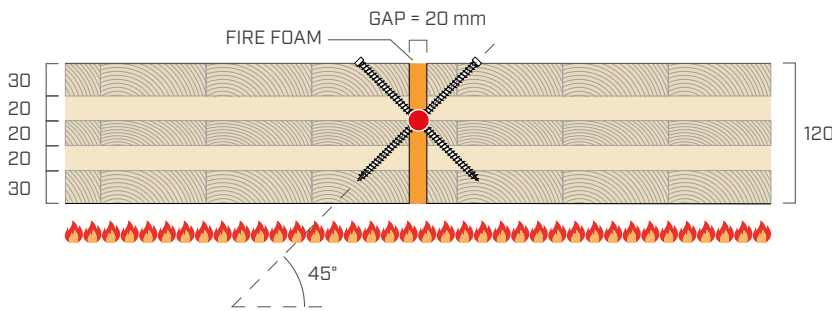
### LEGEND:

- TC 01 - non-exposed face
- TC 02 - non-exposed face
- TC 03 - non-exposed face
- TC 04 - non-exposed face
- TC 05 - non-exposed face
- TC 06 - non-exposed face
- TC 07 - non-exposed face

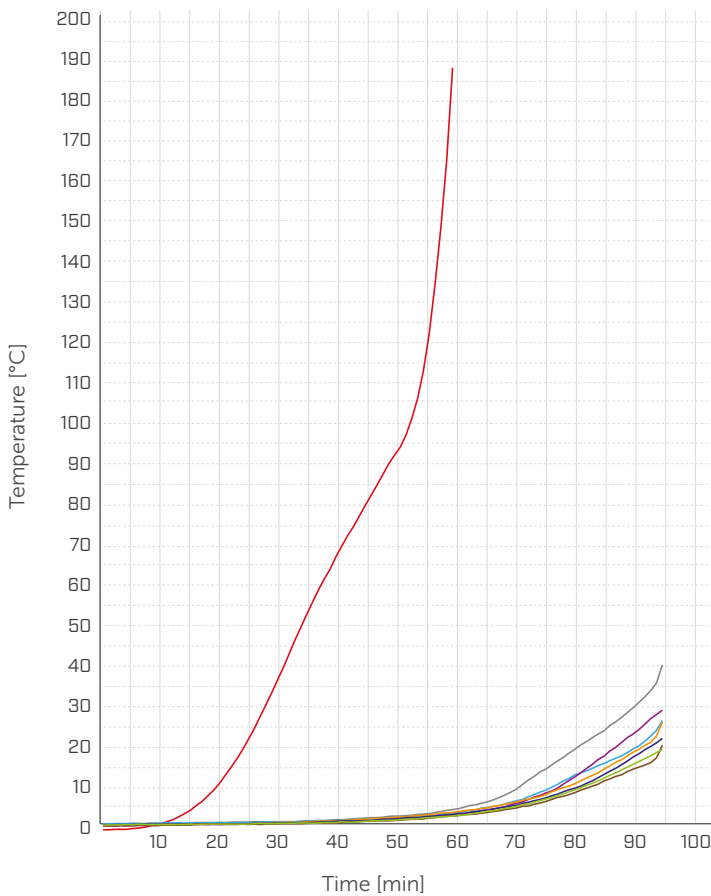
# JOINT h120 | 5 - TEST REPORT

SIMPLE JOINT WITH CROSSED SCREWS VGZ7140, 20 mm GAP AND FIRE FOAM

<b>TOP SEALANT</b>	<b>FIRE FOAM</b>
<b>Description</b>	High fire-resistant sealing foam
<b>Material</b>	Single component PU
<b>BOTTOM SEALANT</b>	<b>without sealant</b>



FIRE FOAM



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab Persistent flame	> 96 minutes	
<b>INSULATION (I)</b>	Time	> 96 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
• 60 mm from slab bottom (non-exposed face)	TC 01	55	< 180°C
on the unexposed face of the slab	TC 05	96	25°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

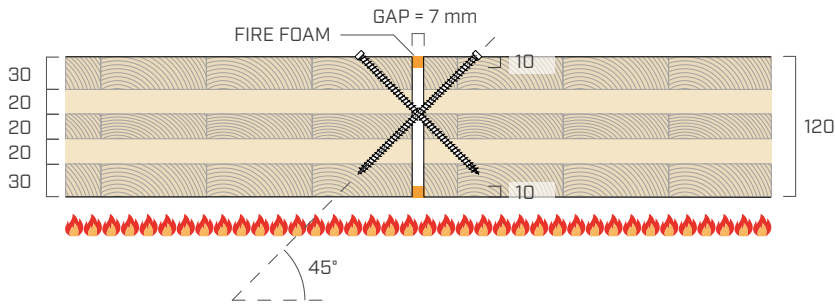
### LEGEND:

- TC 01 - 60 mm from bottom
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - non-exposed face
- TC 04 - non-exposed face
- TC 06 - non-exposed face
- TC 08 - non-exposed face

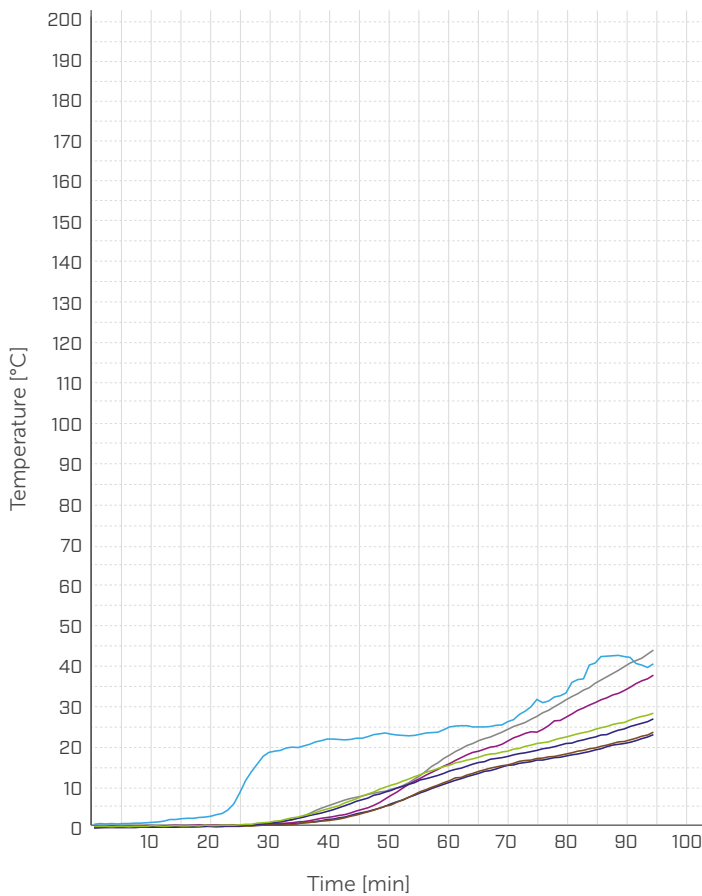
# JOINT h120 | 6 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7140, 7 mm GAP AND FIRE FOAM

<b>TOP SEALANT</b>	<b>FIRE FOAM</b>
<b>Description</b>	High fire-resistant sealing foam
<b>Material</b>	Single component PU
<b>BOTTOM SEALANT</b>	<b>FIRE FOAM</b>
<b>Description</b>	High fire-resistant sealing foam
<b>Material</b>	Single component PU



FIRE FOAM



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

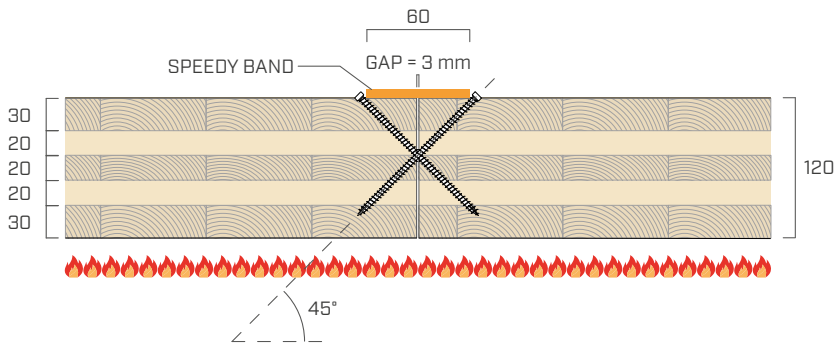
#### LEGEND:

- TC 01 - non-exposed face
- TC 02 - non-exposed face
- TC 03 - non-exposed face
- TC 04 - non-exposed face
- TC 05 - non-exposed face
- TC 06 - non-exposed face
- TC 07 - non-exposed face

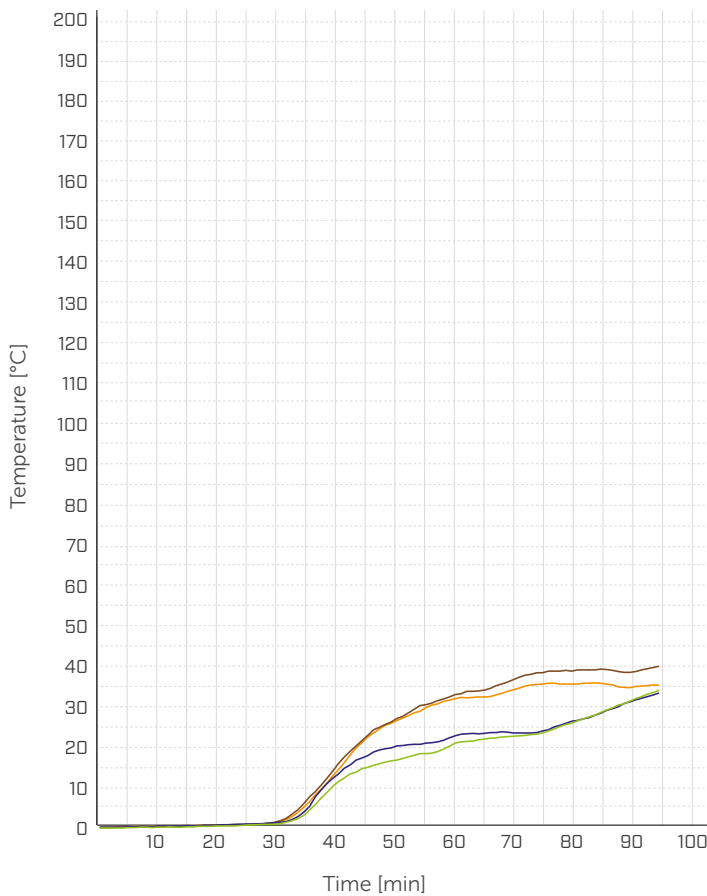
# JOINT h120 | 7 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7140, 3 mm GAP AND SPEEDY BAND

TOP SEALANT	SPEEDY BAND
<b>Description</b>	Universal tape without release liner
<b>Material</b>	PE film/polyester reinforcing grid/solvent-free UV-crosslinked acrylic
<b>Width [mm]</b>	60
BOTTOM SEALANT	without sealant



SPEEDY BAND



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

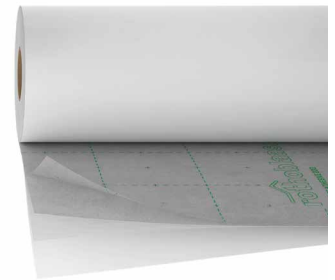
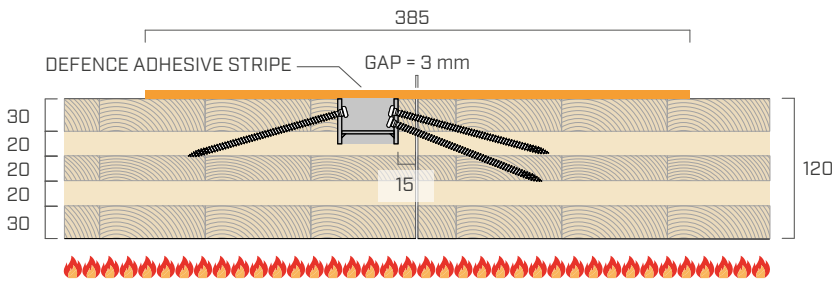
#### LEGEND:

- TC 01 - non-exposed face
- TC 02 - non-exposed face
- TC 03 - non-exposed face
- TC 04 - non-exposed face

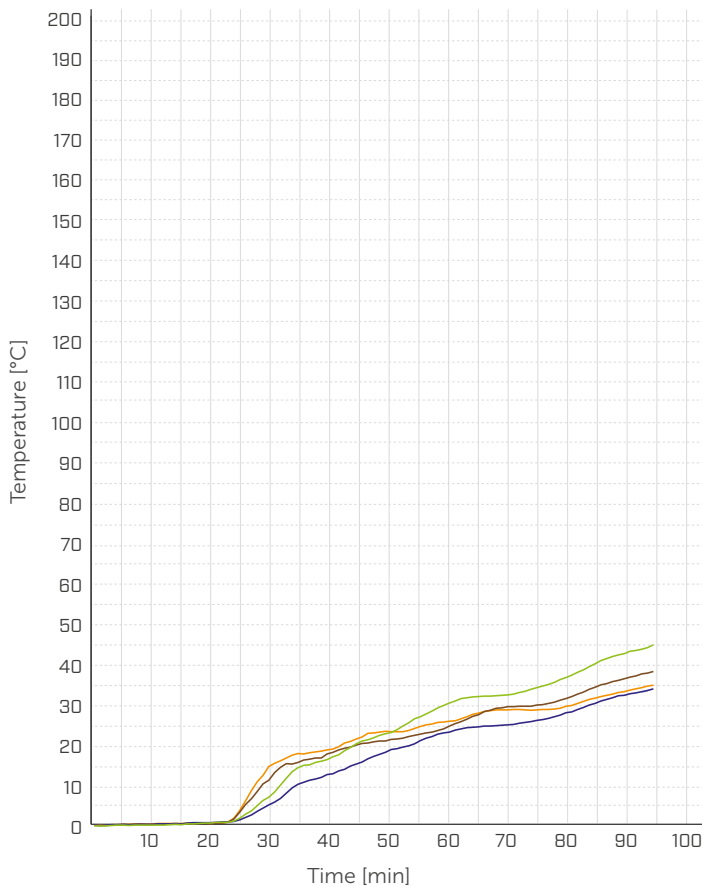
# JOINT h120 | 8 - TEST REPORT

## SIMPLE JOINT WITH RING (RING60T), 3 mm GAP AND DEFENCE ADHESIVE

TOP SEALANT	DEFENCE ADHESIVE
<b>Description</b>	Self-adhesive protective membrane for building elements
<b>Material</b>	EVA coating/non-woven PP fabric/acrylic dispersion without solvents
<b>Width [mm]</b>	385
BOTTOM SEALANT	without sealant



DEFENCE ADHESIVE



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

#### LEGEND:

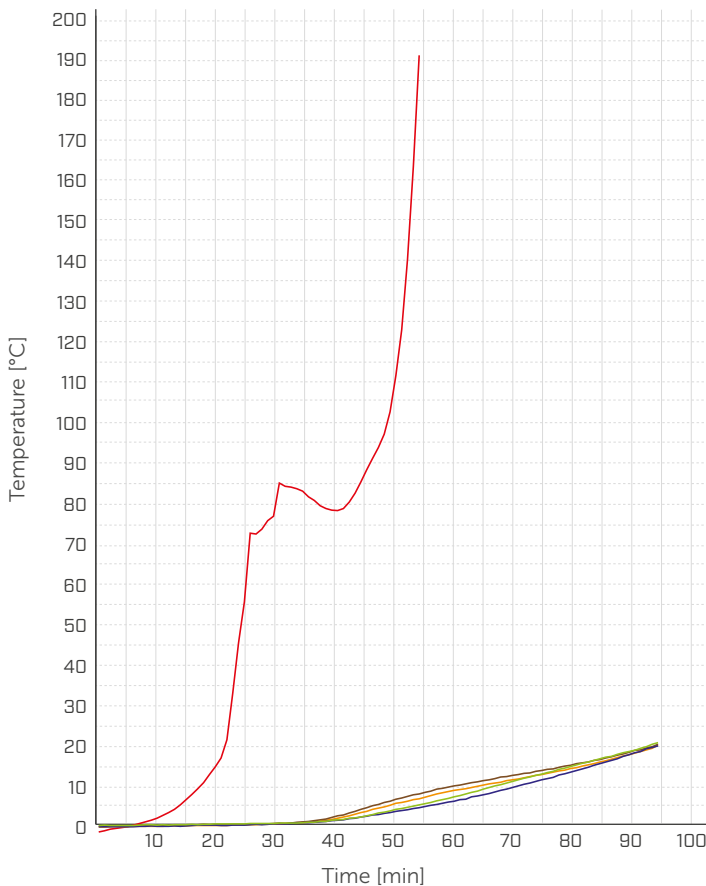
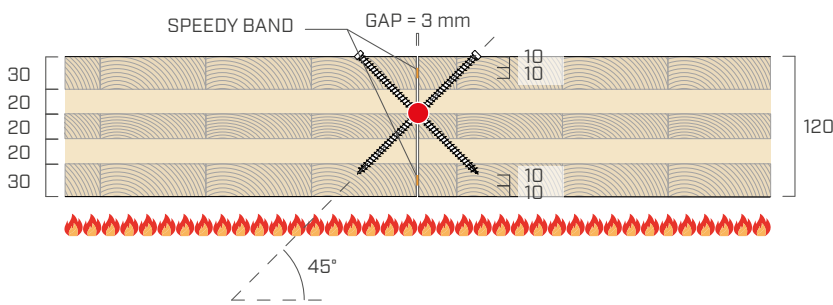
- TC 01 - non-exposed face
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - non-exposed face
- TC 04 - non-exposed face
- TC 06 - non-exposed face



# JOINT h120 | 9 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7140, 3 mm GAP AND SUPRA BAND

TOP SEALANT	SUPRA BAND
<b>Description</b>	Universal double-sided butyl tape with high adhesiveness
<b>Material</b>	Double-sided grey butyl compound
<b>Width [mm]</b>	10
<b>Thickness [mm]</b>	4
BOTTOM SEALANT	SUPRA BAND
<b>Description</b>	Universal double-sided butyl tape with high adhesiveness
<b>Material</b>	Double-sided grey butyl compound
<b>Width [mm]</b>	10
<b>Thickness [mm]</b>	4



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	50	< 180°C
on the unexposed face of the slab	TC 03	96	50°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

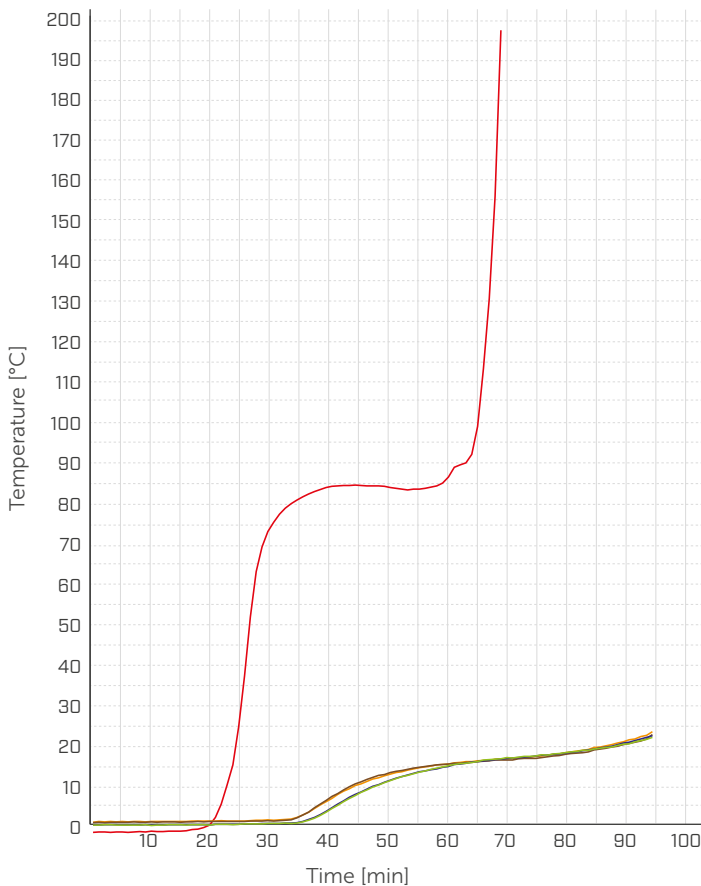
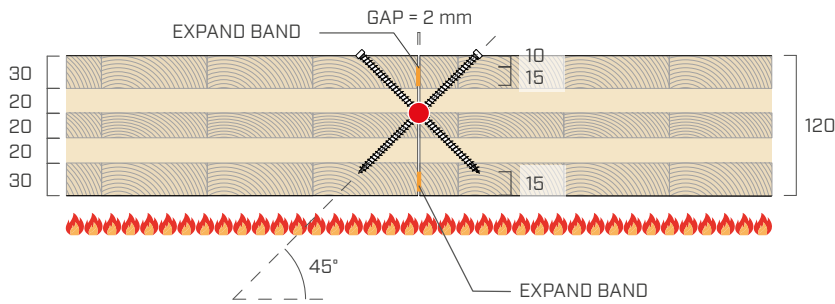
#### LEGEND:

- TC 01 - 60 mm from bottom
- TC 02 - non-exposed face
- TC 03 - non-exposed face
- TC 04 - non-exposed face
- TC 05 - non-exposed face




# JOINT h120 | 10 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7140, 2 mm GAP AND EXPAND BAND

TOP SEALANT	EXPAND BAND
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic polyurethane foam with additives
<b>Width [mm]</b>	15
BOTTOM SEALANT	EXPAND BAND
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic polyurethane foam with additives
<b>Width [mm]</b>	15



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	60	< 180°C
on the unexposed face of the slab	TC 05	96	23°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

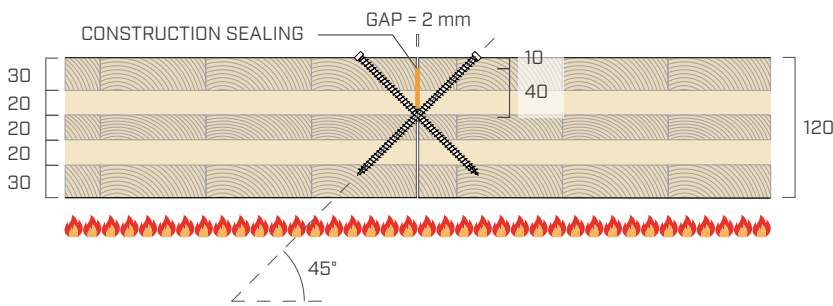
#### LEGEND:

- TC 01 - 60 mm from bottom
 — TC 03 - non-exposed face
— TC 05 - non-exposed face
- TC 02 - non-exposed face
 — TC 04 - non-exposed face

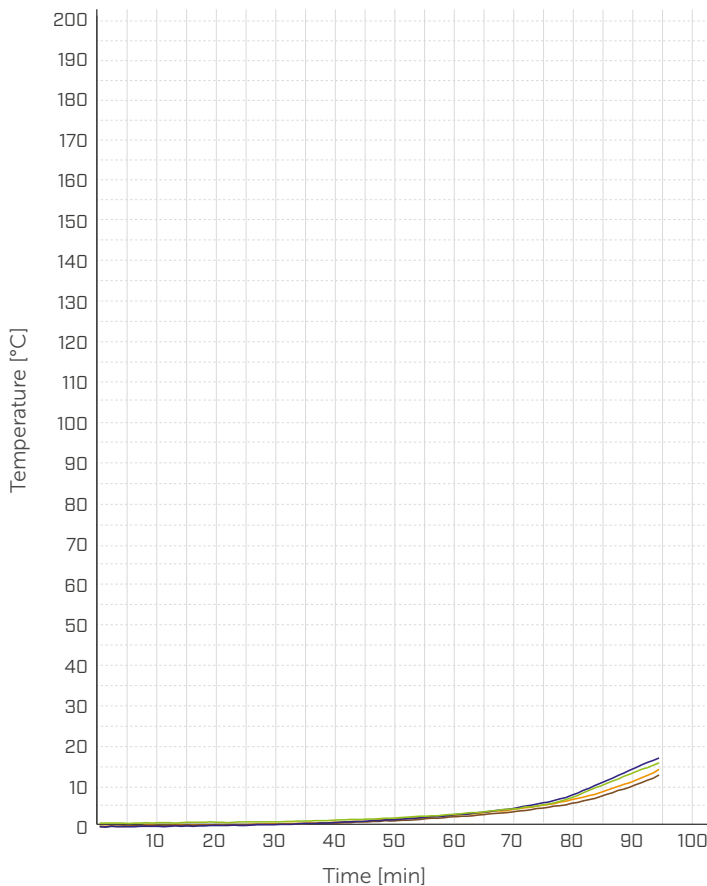
# JOINT h120 | 11 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7140, 2 mm GAP AND CONSTRUCTION SEALING



TOP SEALANT	CONSTRUCTION SEALING
<b>Description</b>	Compressible seal for regular joints
<b>Material</b>	Expanded EPDM
<b>Width [mm]</b>	46
<b>Thickness [mm]</b>	3



CONSTRUCTION SEALING



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

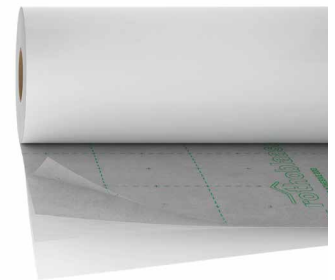
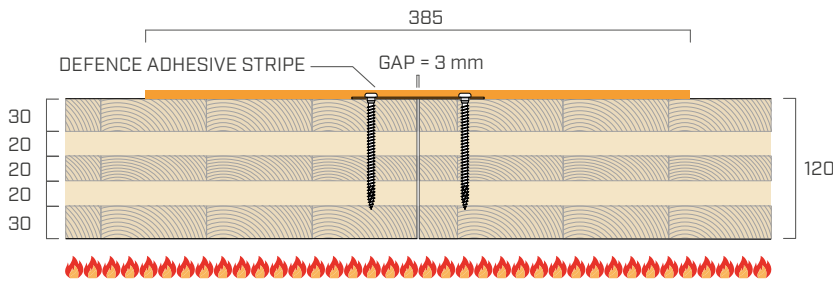
#### LEGEND:

- TC 02 - non-exposed face
- TC 03 - non-exposed face
- TC 04 - non-exposed face
- TC 05 - non-exposed face

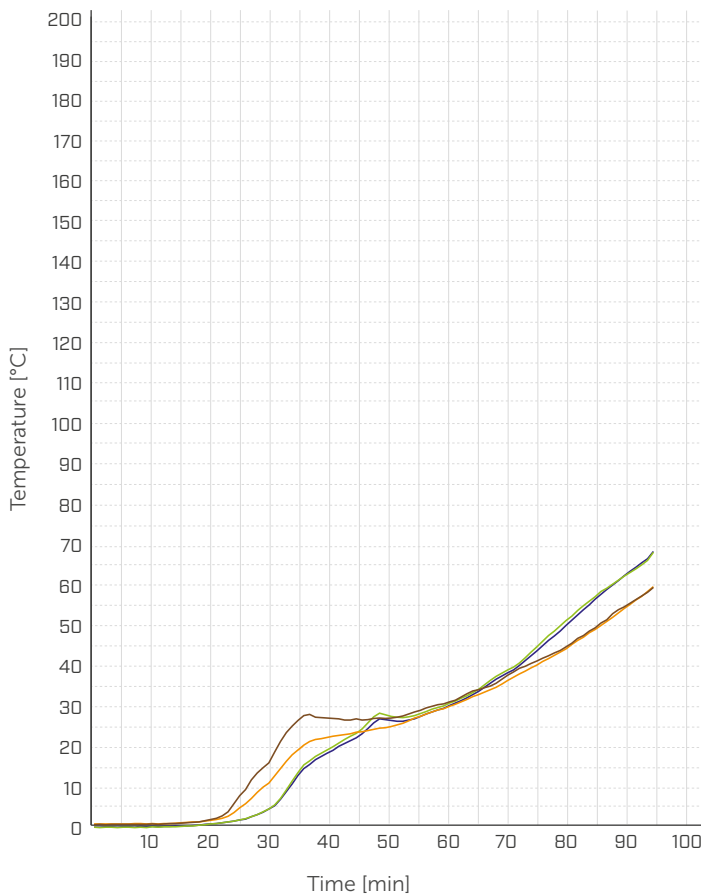
# JOINT h120 | 12 - TEST REPORT

## SIMPLE JOINT WITH TITAN PLATE (TTP1200), 3 mm GAP AND DEFENCE ADHESIVE

TOP SEALANT	DEFENCE ADHESIVE
<b>Description</b>	Self-adhesive protective membrane for building elements
<b>Material</b>	EVA coating/non-woven PP fabric/acrylic dispersion without solvents
<b>Width [mm]</b>	385
BOTTOM SEALANT	without sealant



DEFENCE ADHESIVE



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 96 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 96 minutes	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

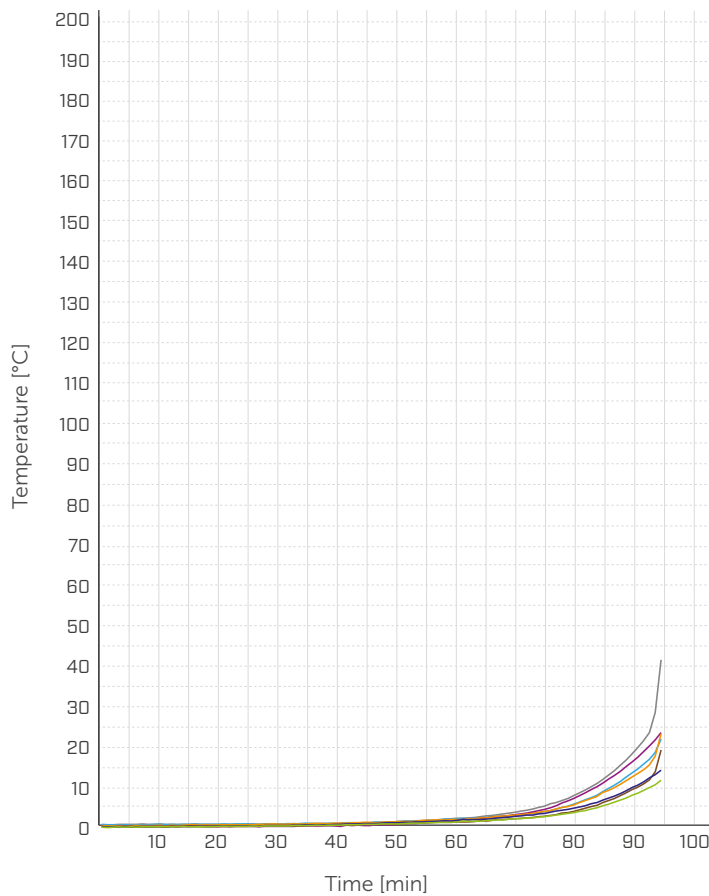
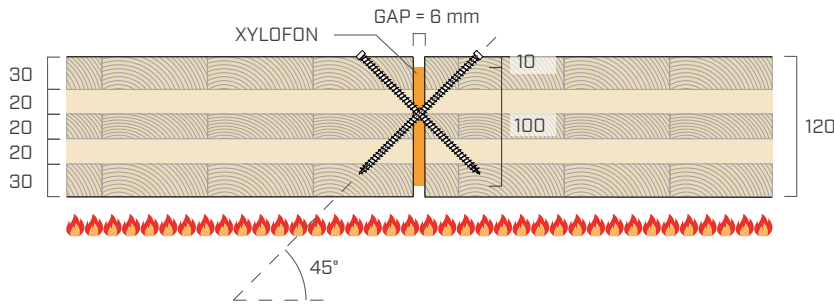
#### LEGEND:

- TC 01 - non-exposed face
- TC 02 - non-exposed face
- TC 03 - non-exposed face
- TC 04 - non-exposed face

# JOINT h120 | 13 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ7140, 6 mm GAP AND XYLOFON

TOP SEALANT	XYLOFON
<b>Description</b>	Universal high-adhesive tape FLEXI BAND
<b>Material</b>	PU monolithic structure
<b>Width [mm]</b>	100
<b>Thickness [mm]</b>	6



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	<b>94 minutes</b>	
	Persistent flame		
<b>INSULATION (I)</b>	Time	<b>94 minutes</b>	

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

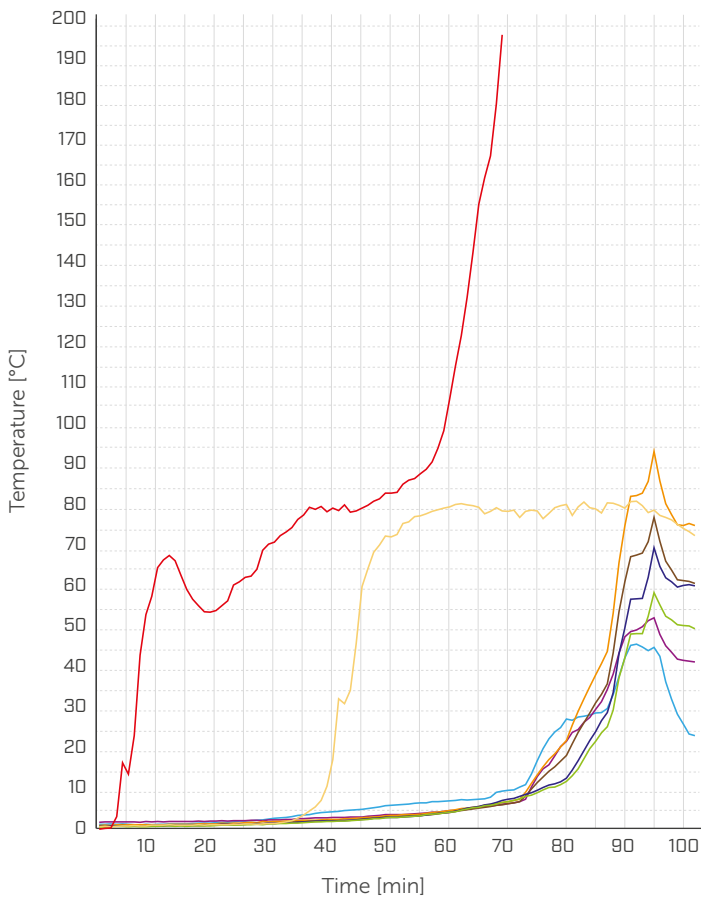
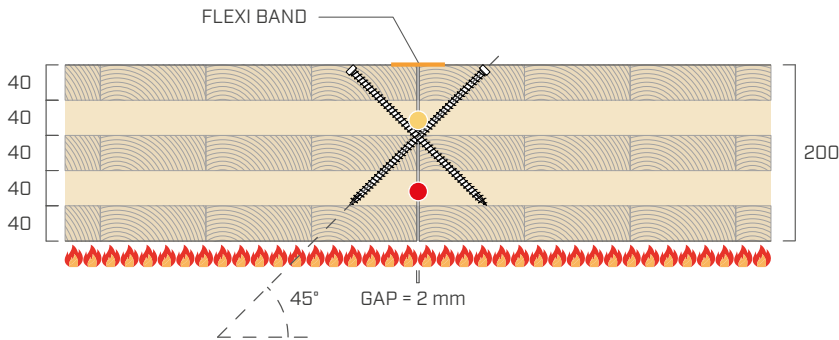
#### LEGEND:

- TC 01 - non-exposed face
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 01 - non-exposed face
- TC 04 - non-exposed face
- TC 06 - non-exposed face

# JOINT h200 | 1 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ9220, 2 mm GAP AND FLEXI BAND

<b>TOP SEALANT</b>	<b>FLEXI BAND</b>
<b>Description</b>	Universal single-sided high-adhesive tape
<b>Material</b>	PE film/glue/reinforcing polyester grid
<b>Width [mm]</b>	60
<b>BOTTOM SEALANT</b>	<b>without sealant</b>



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 102 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 102 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	60	< 180°C
● 140 mm from slab bottom	TC 02	102	72°C
on the unexposed face of the slab	TC 06	102	75°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

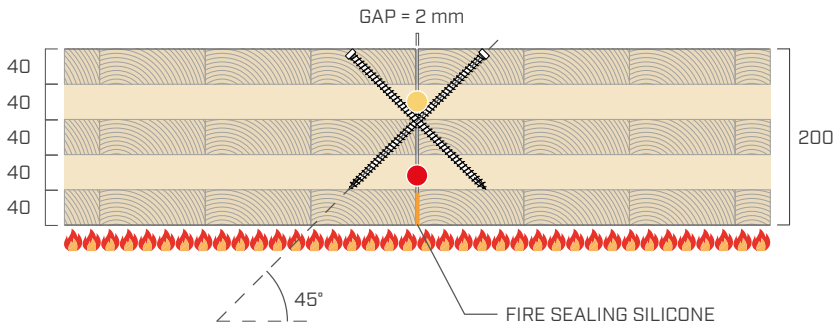
#### LEGEND:

TC 01 - 60 mm from bottom	TC 03 - non-exposed face	TC 05 - non-exposed face	TC 07 - non-exposed face
TC 02 - 140 mm from bottom	TC 04 - non-exposed face	TC 06 - non-exposed face	TC 08 - non-exposed face

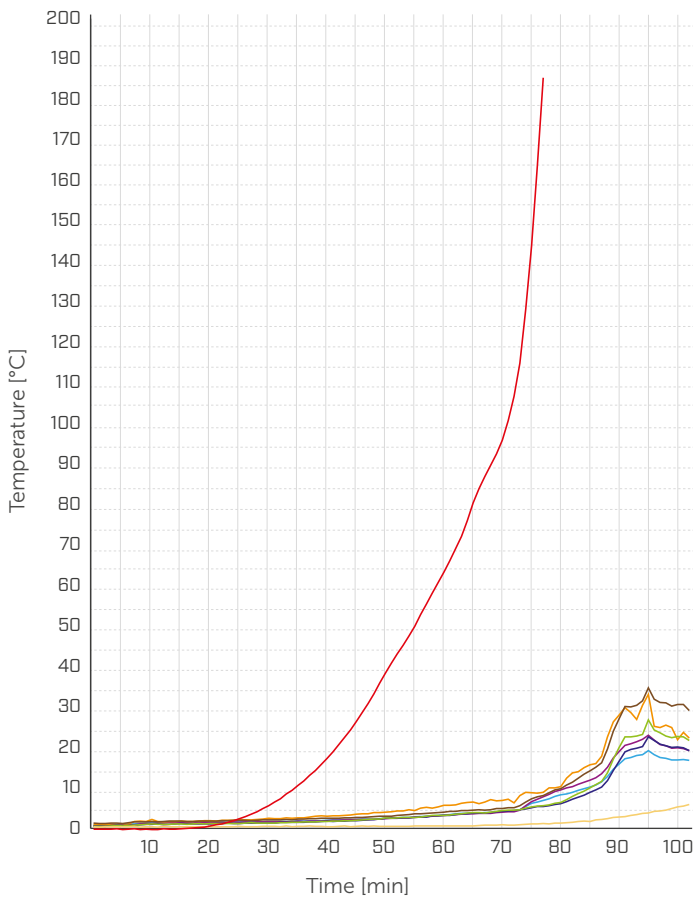
# JOINT h200 | 2 - TEST REPORT

SIMPLE JOINT WITH CROSSED SCREWS VGZ9220, 2 mm GAP AND FIRE SEALING SILICONE (EXPANDED ON PANEL SIDE)

TOP SEALANT	without sealant
BOTTOM SEALANT	FIRE SEALING SILICONE
Description	High fire-resistant acrylic sealant
Material	Silicone



FIRE SEALING SILICONE



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 102 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 102 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	70	< 180°C
● 140 mm from slab bottom	TC 02	102	6°C
on the unexposed face of the slab	TC 05	102	29°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

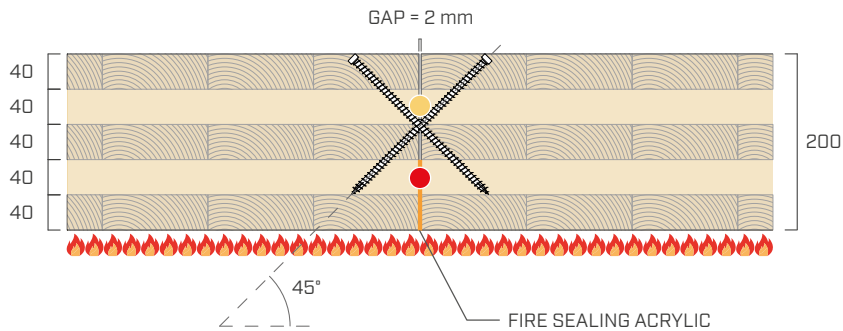
### LEGEND:

TC 01 - 60 mm from bottom	TC 03 - non-exposed face	TC 05 - non-exposed face	TC 07 - non-exposed face
TC 02 - 140 mm from bottom	TC 04 - non-exposed face	TC 06 - non-exposed face	TC 08 - non-exposed face

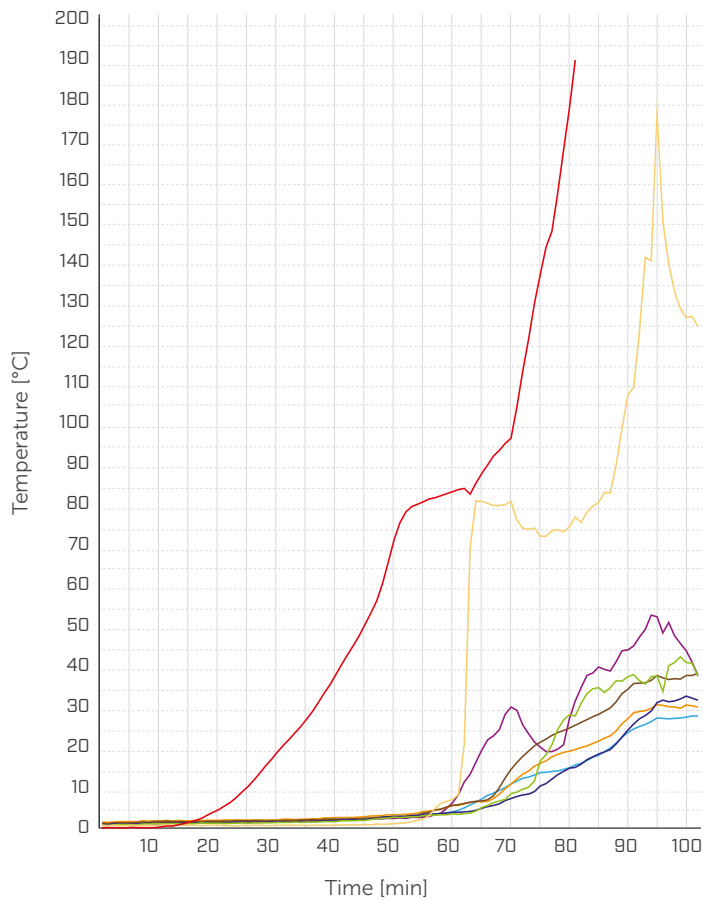
# JOINT h200 | 3 - TEST REPORT

SIMPLE JOINT WITH CROSSED SCREWS VGZ9220, 2 mm GAP AND FIRE SEALING ACRYLIC (EXPANDED ON PANEL SIDE)

TOP SEALANT	without sealant
BOTTOM SEALANT	FIRE SEALING ACRYLIC
Description	High fire-resistant acrylic sealant
Material	Acrylic polymers in aqueous dispersion



FIRE SEALING ACRYLIC



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 102 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 102 minutes	

ΔT measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	70	< 180°C
● 140 mm from slab bottom	TC 02	90	< 180°C
on the unexposed face of the slab	TC 05	102	38°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

### LEGEND:

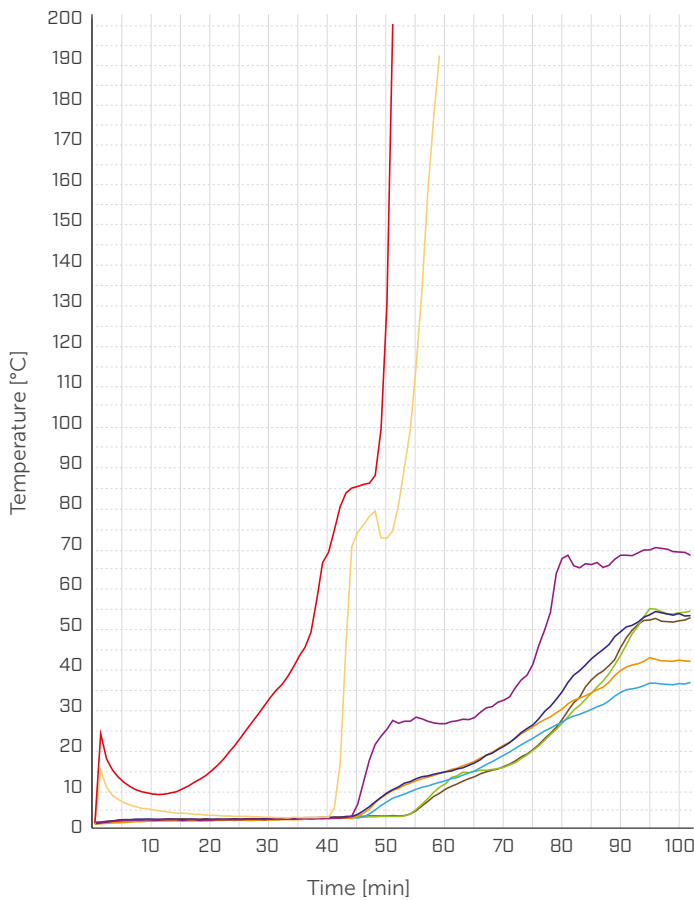
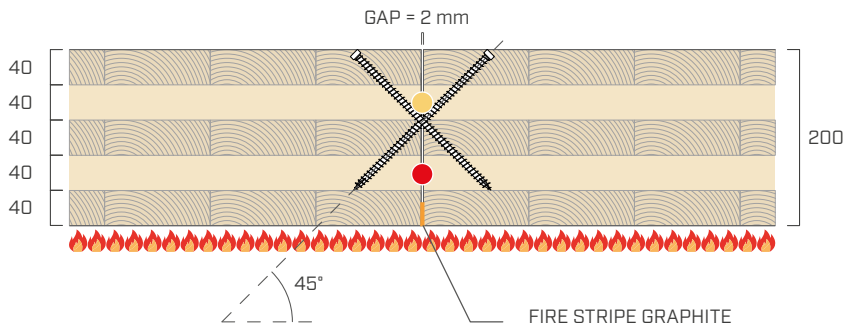
■ TC 01 - 60 mm from bottom	■ TC 03 - non-exposed face	■ TC 05 - non-exposed face	■ TC 07 - non-exposed face
■ TC 02 - 140 mm from bottom	■ TC 04 - non-exposed face	■ TC 06 - non-exposed face	■ TC 08 - non-exposed face



# JOINT h200 | 4 - TEST REPORT

SIMPLE JOINT WITH VGZ9220 CROSSED SCREWS, 2 mm GAP AND FIRE STRIPE GRAPHITE

TOP SEALANT	without sealant
BOTTOM SEALANT	FIRE STRIPE GRAPHITE
Description	Flexible intumescent gasket
Material	Graphite
Width [mm]	25
Thickness [mm]	1,5



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 102 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 102 minutes	

ΔT measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	40	< 180°C
● 140 mm from slab bottom	TC 02	50	< 180°C
on the unexposed face of the slab	TC 03	102	67°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021 | AS 1530.4

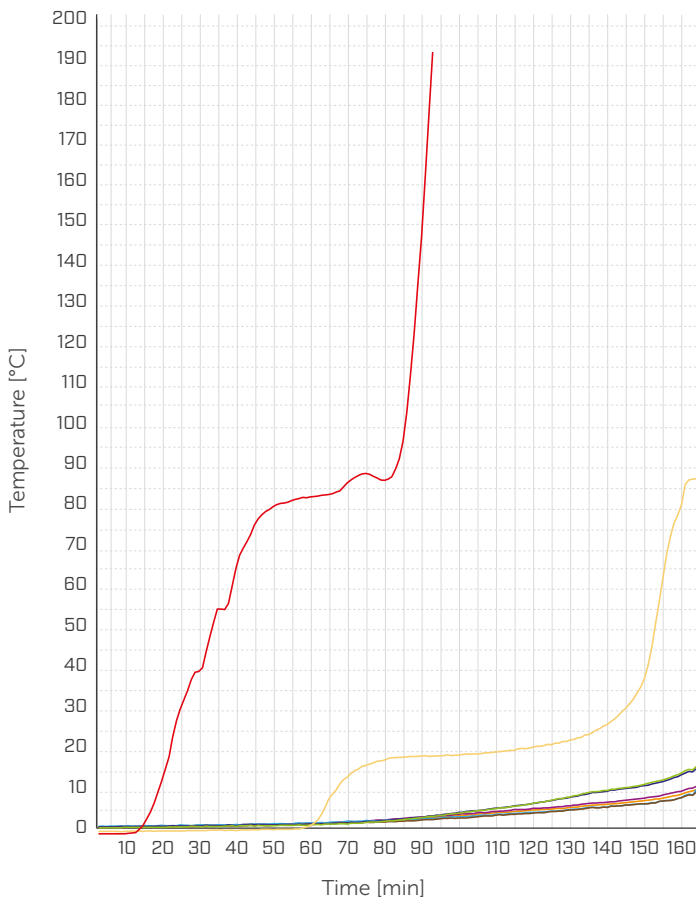
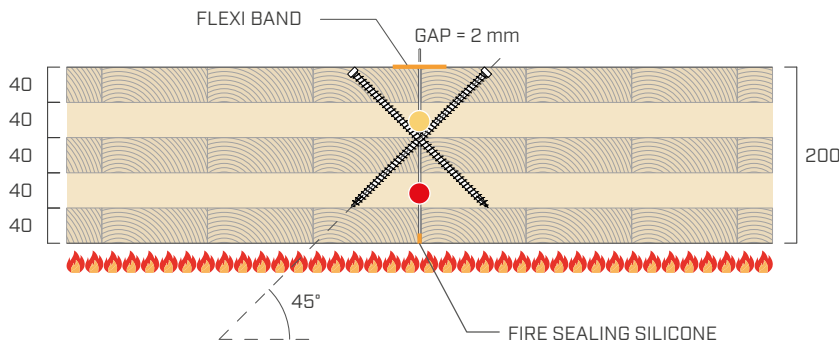
### LEGEND:

- TC 01 - 60 mm from bottom
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - 140 mm from bottom
- TC 04 - non-exposed face
- TC 06 - non-exposed face
- TC 08 - non-exposed face

# JOINT h200 | 5 - TEST REPORT

SIMPLE JOINT WITH VGZ9220 CROSSED SCREWS, 2 mm GAP, FIRE SEALING SILICONE (APPLIED ON THE SIDE OF THE PANEL) AND FLEXI BAND

TOP SEALANT	FLEXI BAND
<b>Description</b>	Universal single-sided high-adhesive tape
<b>Material</b>	PE film/glue/reinforcing polyester grid
<b>Width [mm]</b>	60
BOTTOM SEALANT	FIRE SEALING SILICONE
<b>Description</b>	High fire-resistant silicone sealant
<b>Material</b>	Silicone



## PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 161 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 161 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	80	< 180°C
● 140 mm from slab bottom	TC 02	161	86°C
on the unexposed face of the slab	TC 03	161	15°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

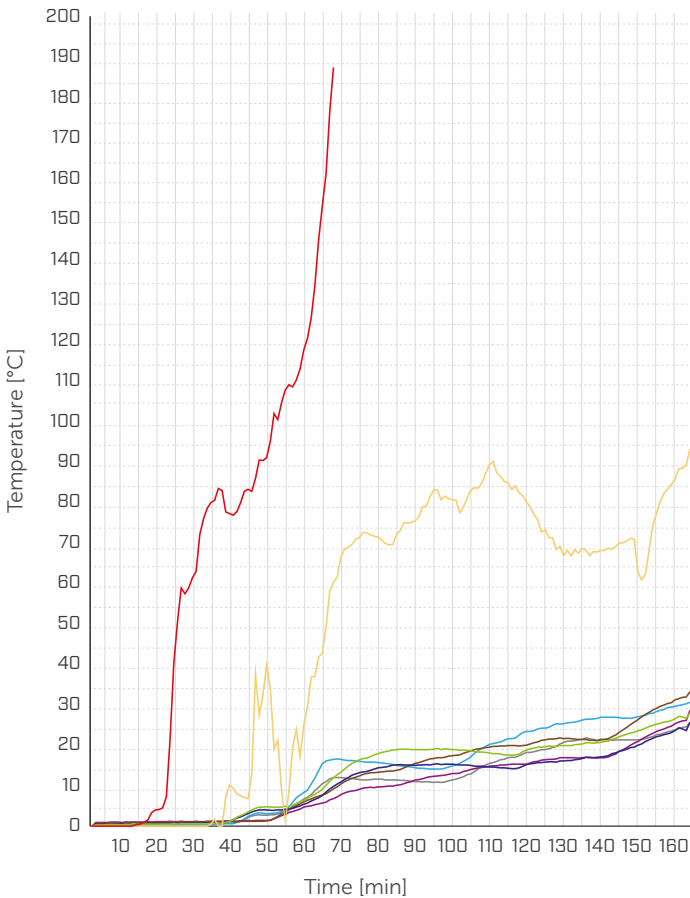
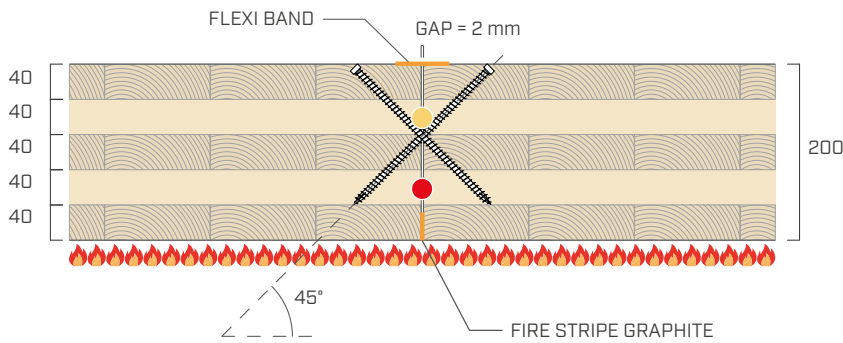
### LEGEND:

<span style="color: red;">—</span> TC 01 - 60 mm from bottom	<span style="color: green;">—</span> TC 03 - non-exposed face	<span style="color: brown;">—</span> TC 05 - non-exposed face	<span style="color: purple;">—</span> TC 07 - non-exposed face
<span style="color: yellow;">—</span> TC 02 - 140 mm from bottom	<span style="color: blue;">—</span> TC 04 - non-exposed face	<span style="color: orange;">—</span> TC 06 - non-exposed face	<span style="color: cyan;">—</span> TC 08 - non-exposed face


# JOINT h200 | 6 - TEST REPORT

SIMPLE JOINT WITH VGZ9220 CROSSED SCREWS, 2 mm GAP AND FIRE STRIPE GRAPHITE AND FLEXI BAND

TOP SEALANT	FLEXI BAND
<b>Description</b>	Universal single-sided high-adhesive tape
<b>Material</b>	PE film/glue/reinforcing polyester grid
<b>Width [mm]</b>	60
BOTTOM SEALANT	FIRE STRIPE GRAPHITE
<b>Description</b>	Flexible intumescent gasket
<b>Material</b>	Graphite
<b>Width [mm]</b>	25
<b>Thickness [mm]</b>	1.5



## PERFORMANCE CRITERIA

Cotton swab	
<b>TIGHTNESS (E)</b>	<b>&gt; 161 minutes</b>
Persistent flame	
<b>INSULATION (I)</b>	<b>&gt; 161 minutes</b>

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	60	< 180°C
● 140 mm from slab bottom	TC 02	161	93°C
on the unexposed face of the slab	TC 05	161	33°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

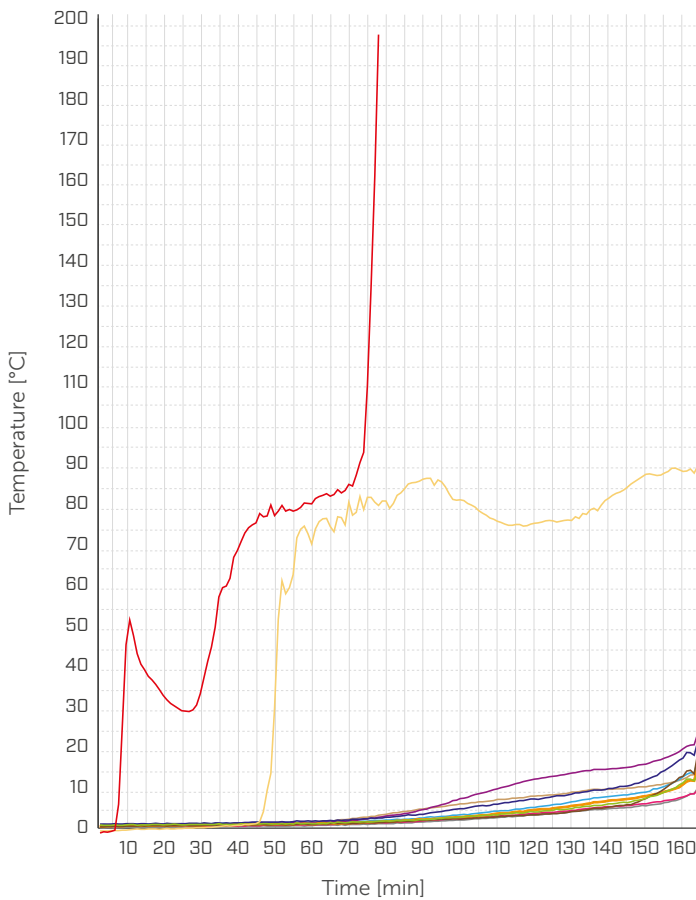
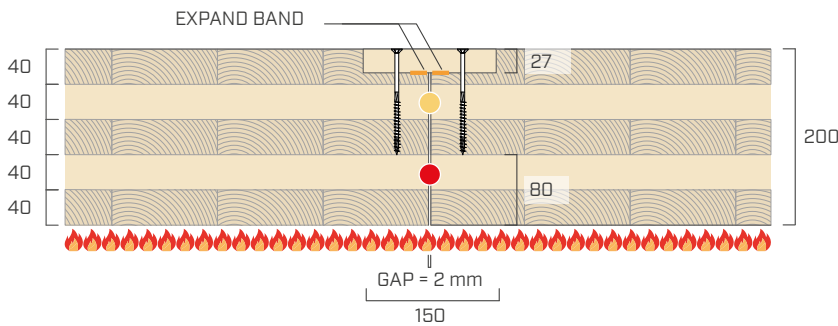
### LEGEND:

<span style="color: red;">—</span> TC 01 - 60 mm from bottom	<span style="color: green;">—</span> TC 03 - non-exposed face	<span style="color: brown;">—</span> TC 05 - non-exposed face	<span style="color: purple;">—</span> TC 07 - non-exposed face
<span style="color: orange;">—</span> TC 02 - 140 mm from bottom	<span style="color: blue;">—</span> TC 04 - non-exposed face	<span style="color: yellow;">—</span> TC 06 - non-exposed face	<span style="color: cyan;">—</span> TC 08 - non-exposed face


# JOINT h200 | 7 - TEST REPORT

JOINT WITH COVER PLATE AND PARTIAL THREAD SCREWS HBS6120, 2 mm GAP AND EXPAND BAND

<b>TOP SEALANT</b>	<b>EXPAND BAND</b>
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic polyurethane foam with additives
<b>BOTTOM SEALANT</b>	<b>without sealant</b>



## PERFORMANCE CRITERIA

Cotton swab	
<b>TIGHTNESS (E)</b>	<b>&gt; 161 minutes</b>
Persistent flame	
<b>INSULATION (I)</b>	<b>&gt; 161 minutes</b>

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	70	< 180 °C
● 140 mm from slab bottom	TC 02	161	90°C
on the unexposed face of the slab	TC 07	161	24°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

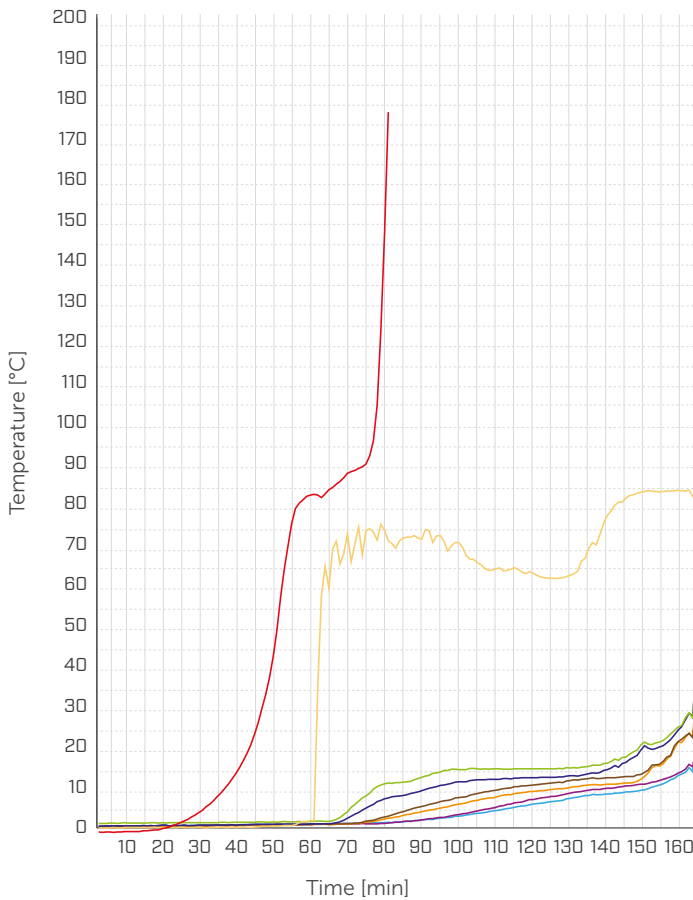
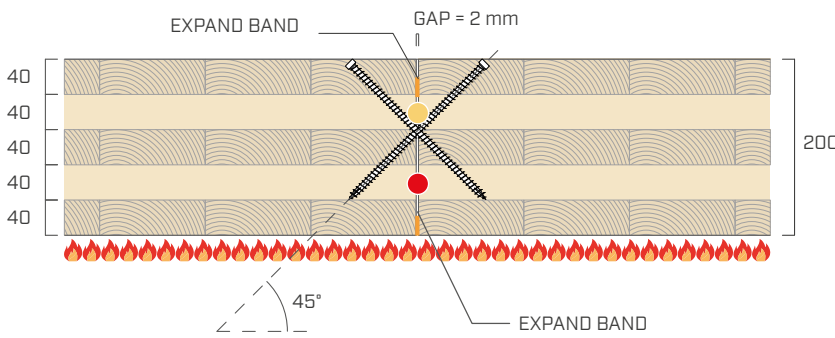
### LEGEND:

- TC 01 - 60 mm from bottom
- TC 02 - 140 mm from bottom
- TC 03 - non-exposed face
- TC 04 - non-exposed face
- TC 05 - non-exposed face
- TC 06 - non-exposed face
- TC 07 - non-exposed face
- TC 08 - non-exposed face
- TC 09 - non-exposed face
- TC 10 - non-exposed face
- TC 11 - non-exposed face

# JOINT h200 | 8 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ9220, 2 mm GAP AND EXPAND BAND

<b>TOP SEALANT</b>	<b>EXPAND BAND</b>
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic polyurethane foam with additives
<b>BOTTOM SEALANT</b>	<b>EXPAND BAND</b>
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic polyurethane foam with additives



### PERFORMANCE CRITERIA

Cotton swab  
**TIGHTNESS (E)** > 161 minutes  
 Persistent flame



**INSULATION (I)** Time > 161 minutes

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	70	< 180 °C
● 140 mm from slab bottom	TC 02	161	83 °C
on the unexposed face of the slab	TC 04	161	42 °C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

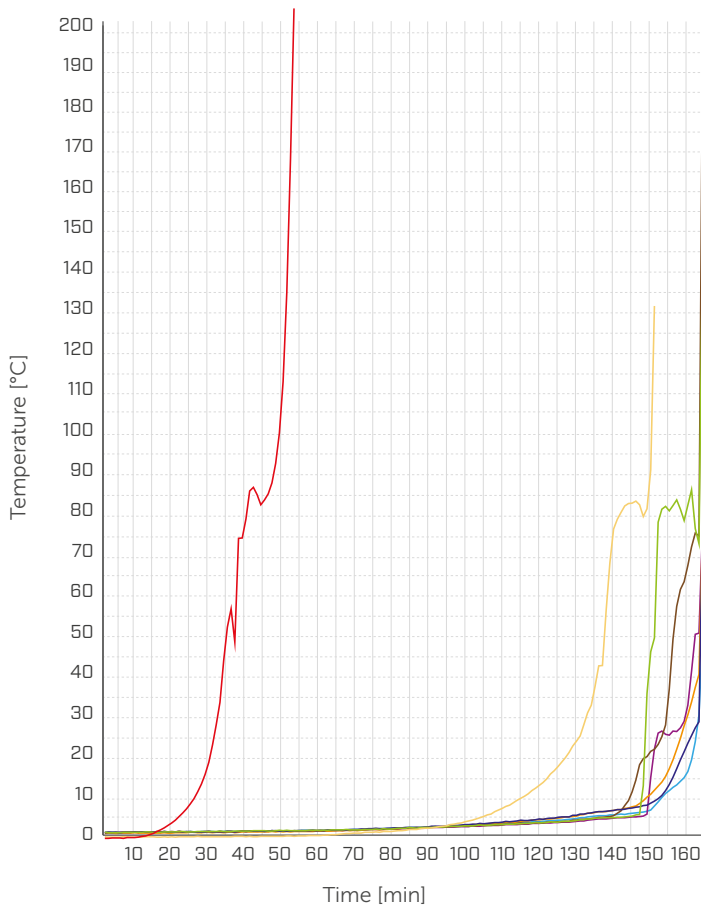
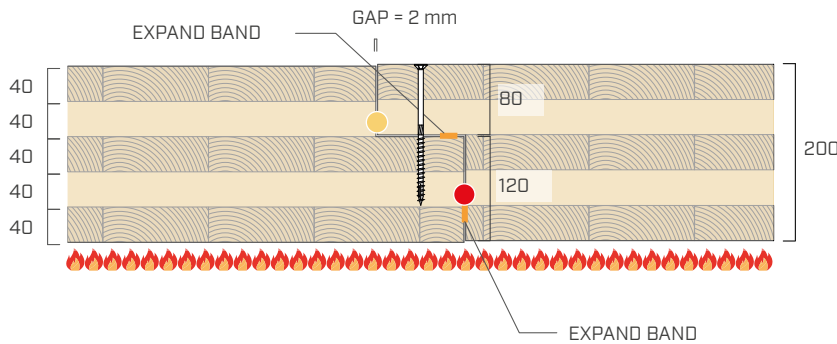
#### LEGEND:

- TC 01 - 60 mm from bottom
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - 140 mm from bottom
- TC 04 - non-exposed face
- TC 06 - non-exposed face
- TC 08 - non-exposed face


# JOINT h200 | 9 - TEST REPORT

## HALF-LAP JOINT WITH PARTIAL THREAD SCREWS HBS8160, 2 mm GAP AND EXPAND BAND

<b>TOP SEALANT</b>	<b>EXPAND BAND</b>
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic polyurethane foam with additives/silicone paper release liner
<b>BOTTOM SEALANT</b>	<b>EXPAND BAND</b>
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic polyurethane foam with additives/silicone paper release liner



### PERFORMANCE CRITERIA

Cotton swab  
**TIGHTNESS (E)** ————— **> 161 minutes**  
 Persistent flame  


**INSULATION (I)** Time **> 161 minutes**

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	40	< 180°C
● 140 mm from slab bottom	TC 02	140	< 180°C
on the unexposed face of the slab	TC 05	161	199°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

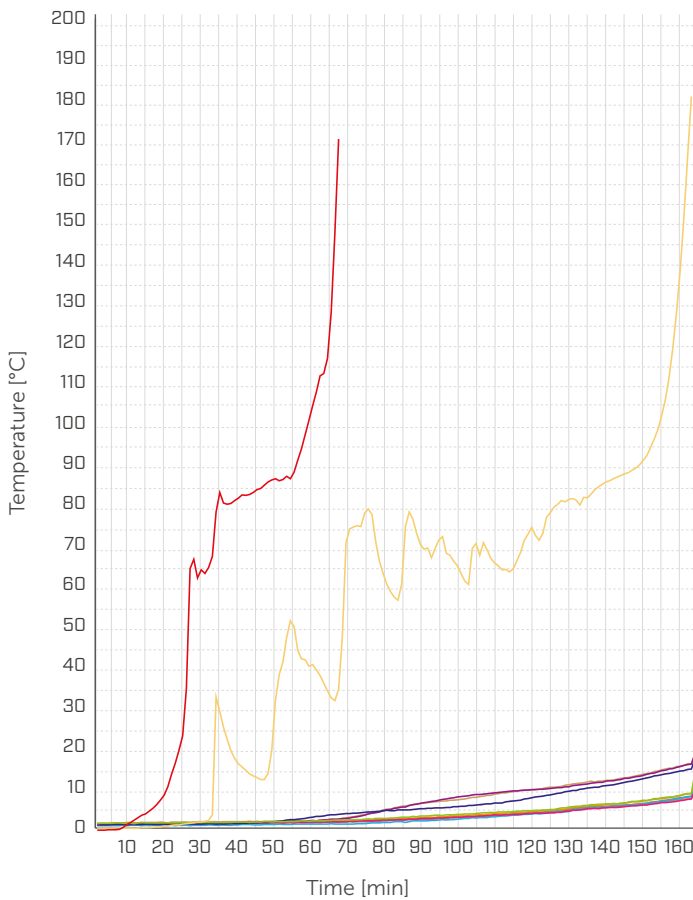
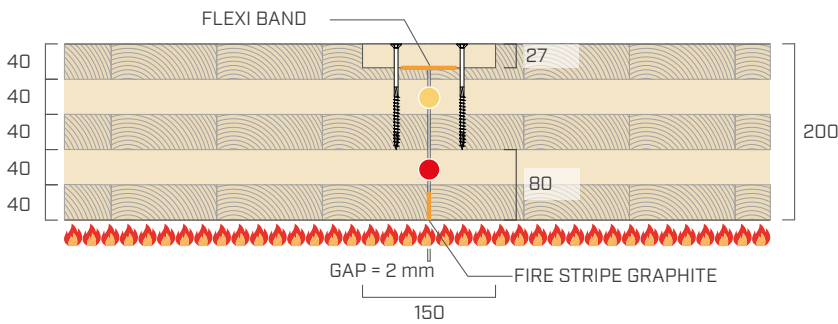
#### LEGEND:

- TC 01 - 60 mm from bottom
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - 140 mm from bottom
- TC 04 - non-exposed face
- TC 06 - non-exposed face
- TC 08 - non-exposed face

# JOINT h200 | 10 - TEST REPORT

## JOINT WITH COVER PLATE AND PARTIAL THREAD SCREWS HBS6120, 2 mm GAP, FIRE STRIPE GRAPHITE AND FLEXI BAND

TOP SEALANT	FLEXI BAND
<b>Description</b>	Universal single-sided high-adhesive tape
<b>Material</b>	PE film/glue/reinforcing polyester grid/silicone coated paper
<b>Width [mm]</b>	60
BOTTOM SEALANT	FIRE STRIPE GRAPHITE
<b>Description</b>	Flexible intumescent gasket
<b>Material</b>	Graphite
<b>Width [mm]</b>	25
<b>Thickness [mm]</b>	1,5



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 161 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 161 minutes	

ΔT measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	60	< 180°C
● 140 mm from slab bottom	TC 02	150	< 180°C
on the unexposed face of the slab	TC 07	161	19°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

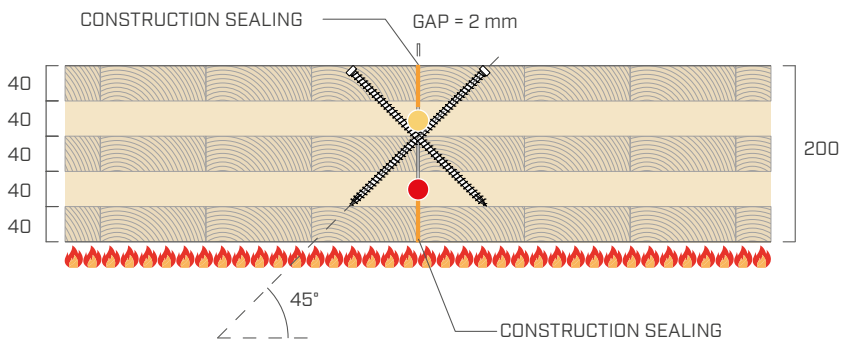
#### LEGEND:

TC 01 - 60 mm from bottom	TC 04 - non-exposed face	TC 07 - non-exposed face	TC 10 - non-exposed face
TC 02 - 140 mm from bottom	TC 05 - non-exposed face	TC 08 - non-exposed face	TC 11 - non-exposed face
TC 03 - non-exposed face	TC 06 - non-exposed face	TC 09 - non-exposed face	

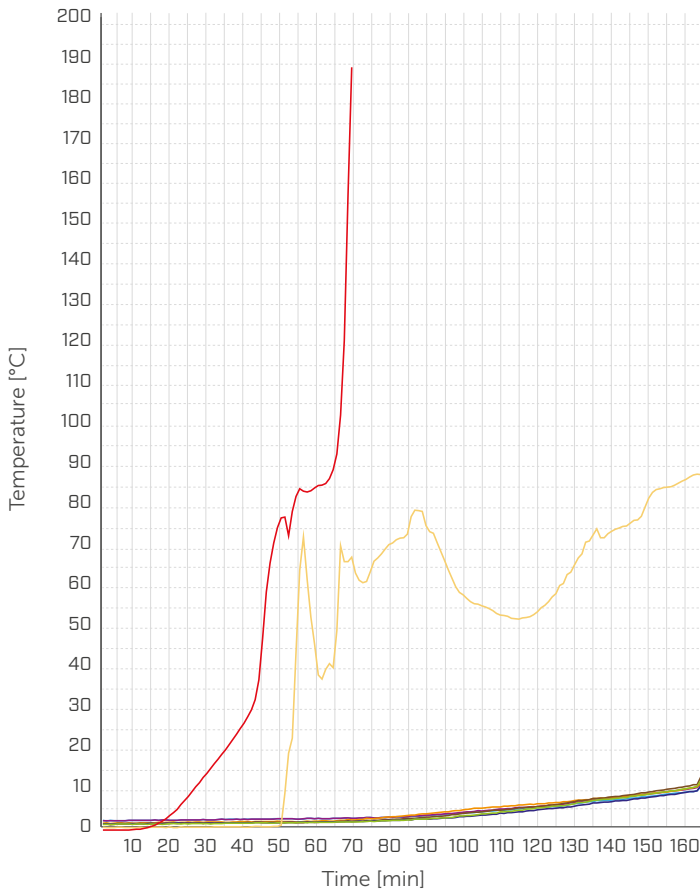
# JOINT h200 | 11 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ9220, 2 mm GAP AND CONSTRUCTION SEALING

TOP SEALANT	CONSTRUCTION SEALING
<b>Description</b>	Compressible seal for regular joints
<b>Material</b>	Expanded EPDM
<b>Width [mm]</b>	46
<b>Thickness [mm]</b>	3
BOTTOM SEALANT	CONSTRUCTION SEALING
<b>Description</b>	Compressible seal for regular joints
<b>Material</b>	Expanded EPDM
<b>Width [mm]</b>	46
<b>Thickness [mm]</b>	3



CONSTRUCTION SEALING



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 161 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 161 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	60	< 180°C
● 140 mm from slab bottom	TC 02	161	87°C
on the unexposed face of the slab	TC 05	161	12°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

#### LEGEND:

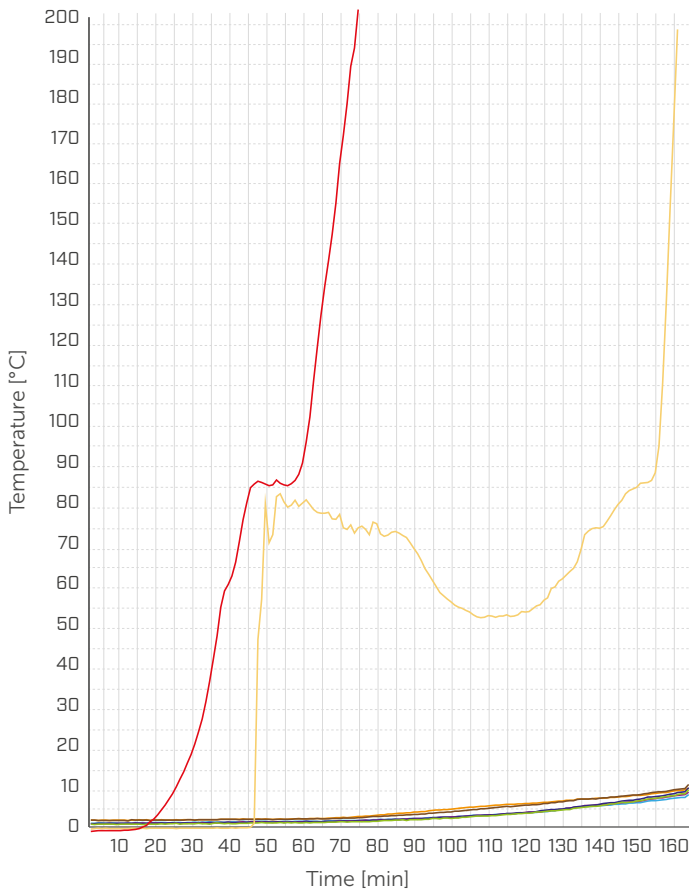
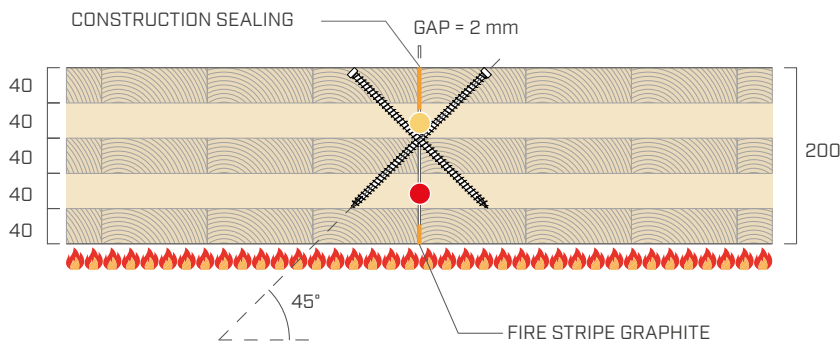
<span style="color: red;">—</span> TC 01 - 60 mm from bottom	<span style="color: green;">—</span> TC 03 - non-exposed face	<span style="color: brown;">—</span> TC 05 - non-exposed face	<span style="color: purple;">—</span> TC 07 - non-exposed face
<span style="color: orange;">—</span> TC 02 - 140 mm from bottom	<span style="color: blue;">—</span> TC 04 - non-exposed face	<span style="color: yellow;">—</span> TC 06 - non-exposed face	<span style="color: cyan;">—</span> TC 08 - non-exposed face



# JOINT h200 | 12 - TEST REPORT

## VGZ9220 SIMPLE JOINT WITH CROSSED SCREWS, 2 mm GAP, CONSTRUCTION SEALING AND FIRE STRIPE GRAPHITE

TOP SEALANT	CONSTRUCTION SEALING
<b>Description</b>	Compressible seal for regular joints
<b>Material</b>	Expanded EPDM
<b>Width [mm]</b>	46
<b>Thickness [mm]</b>	3
BOTTOM SEALANT	FIRE STRIPE GRAPHITE
<b>Description</b>	Flexible intumescent gasket
<b>Material</b>	Graphite
<b>Width [mm]</b>	25
<b>Thickness [mm]</b>	1,5



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 161 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 161 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	60	< 180°C
● 140 mm from slab bottom	TC 02	150	< 180°C
on the unexposed face of the slab	TC 05	161	11°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

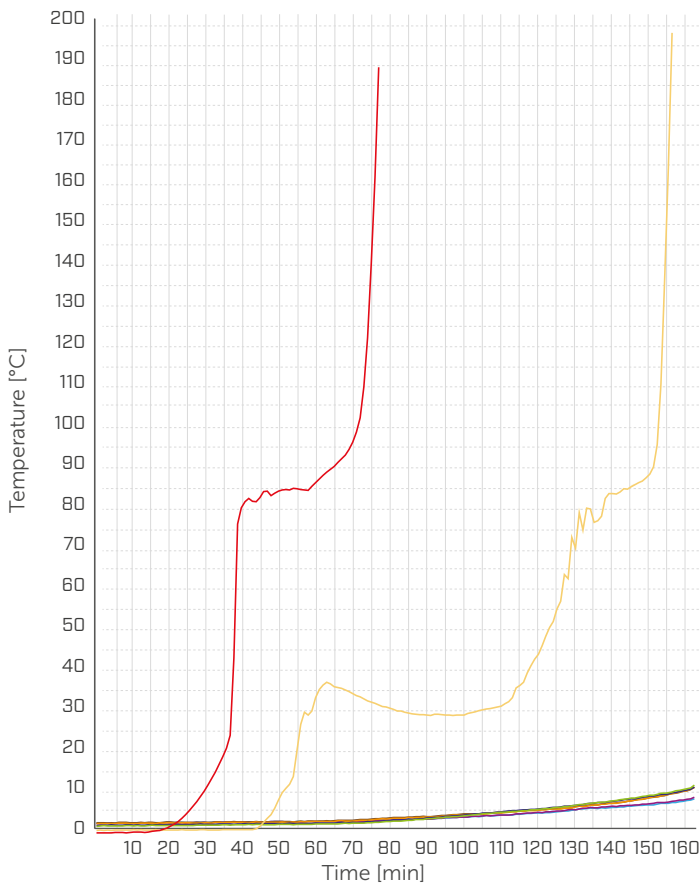
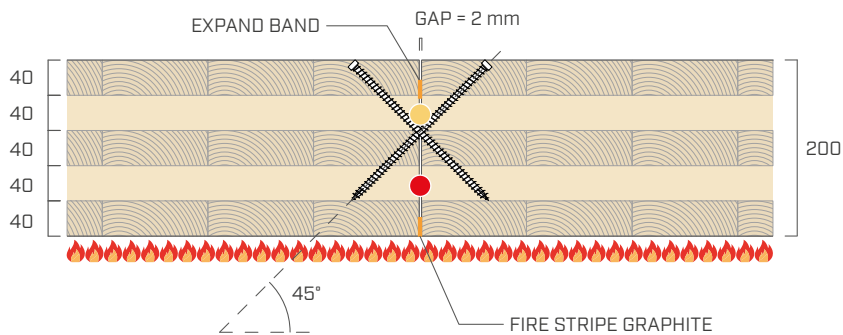
#### LEGEND:

- TC 01 - 60 mm from bottom
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - 140 mm from bottom
- TC 04 - non-exposed face
- TC 06 - non-exposed face
- TC 08 - non-exposed face


# JOINT h200 | 13 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ9220, 2 mm GAP, EXPAND BAND AND FIRE STRIPE GRAPHITE

TOP SEALANT	EXPAND BAND
<b>Description</b>	Self-expanding sealing tape
<b>Material</b>	Elastic polyurethane foam with additives
BOTTOM SEALANT	FIRE STRIPE GRAPHITE
<b>Description</b>	Flexible intumescent gasket
<b>Material</b>	Graphite
<b>Width [mm]</b>	25
<b>Thickness [mm]</b>	1,5











### PERFORMANCE CRITERIA

Cotton swab	
<b>TIGHTNESS (E)</b>	<b>&gt; 161 minutes</b>
Persistent flame	
<b>INSULATION (I)</b>	<b>&gt; 161 minutes</b>

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	70	< 180°C
● 140 mm from slab bottom	TC 02	150	< 180°C
on the unexposed face of the slab	TC 03	161	12°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

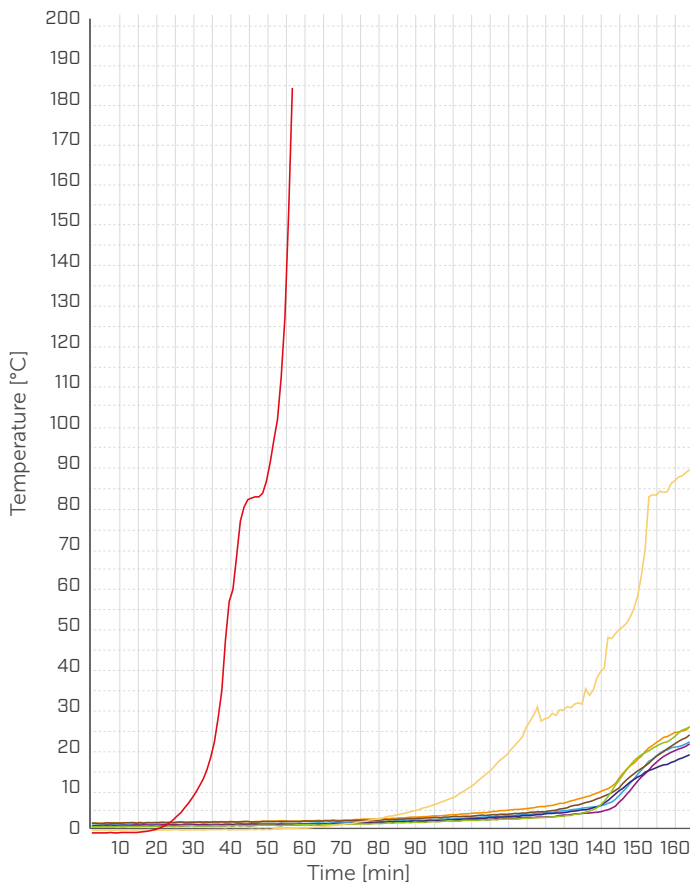
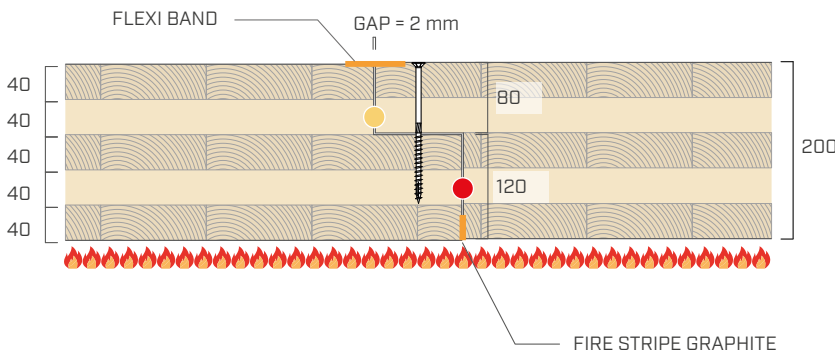
#### LEGEND:

 TC 01 - 60 mm from bottom	 TC 03 - non-exposed face	 TC 05 - non-exposed face	 TC 07 - non-exposed face
 TC 02 - 140 mm from bottom	 TC 04 - non-exposed face	 TC 06 - non-exposed face	 TC 08 - non-exposed face

# JOINT h200 | 14 - TEST REPORT

## HALF-LAP JOINT WITH PARTIAL THREAD SCREWS HBS8160, 2 mm GAP, FLEXI BAND AND FIRE STRIPE GRAPHITE

TOP SEALANT	FLEXI BAND
<b>Description</b>	Universal single-sided high-adhesive tape
<b>Material</b>	PE film/glue/reinforcing polyester grid
<b>Width [mm]</b>	60
BOTTOM SEALANT	FIRE STRIPE GRAPHITE
<b>Description</b>	Flexible intumescent gasket
<b>Material</b>	Graphite
<b>Width [mm]</b>	25
<b>Thickness [mm]</b>	1,5



### PERFORMANCE CRITERIA

<b>TIGHTNESS (E)</b>	Cotton swab	> 161 minutes	
	Persistent flame		
<b>INSULATION (I)</b>	Time	> 161 minutes	

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	50	< 180°C
● 140 mm from slab bottom	TC 02	161	89°C
on the unexposed face of the slab	TC 03-06	161	25°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

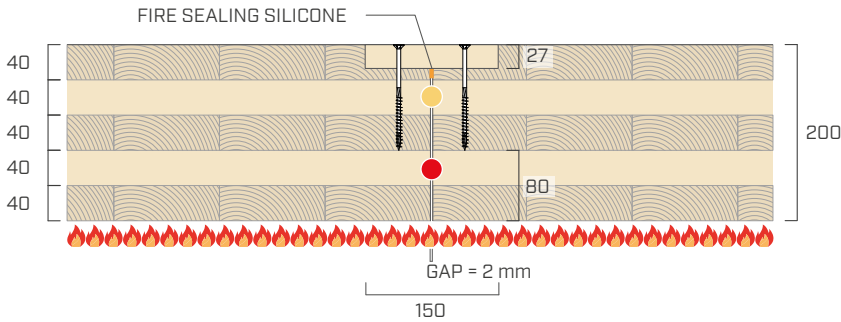
#### LEGEND:

- TC 01 - 60 mm from bottom
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - 140 mm from bottom
- TC 04 - non-exposed face
- TC 06 - non-exposed face
- TC 08 - non-exposed face

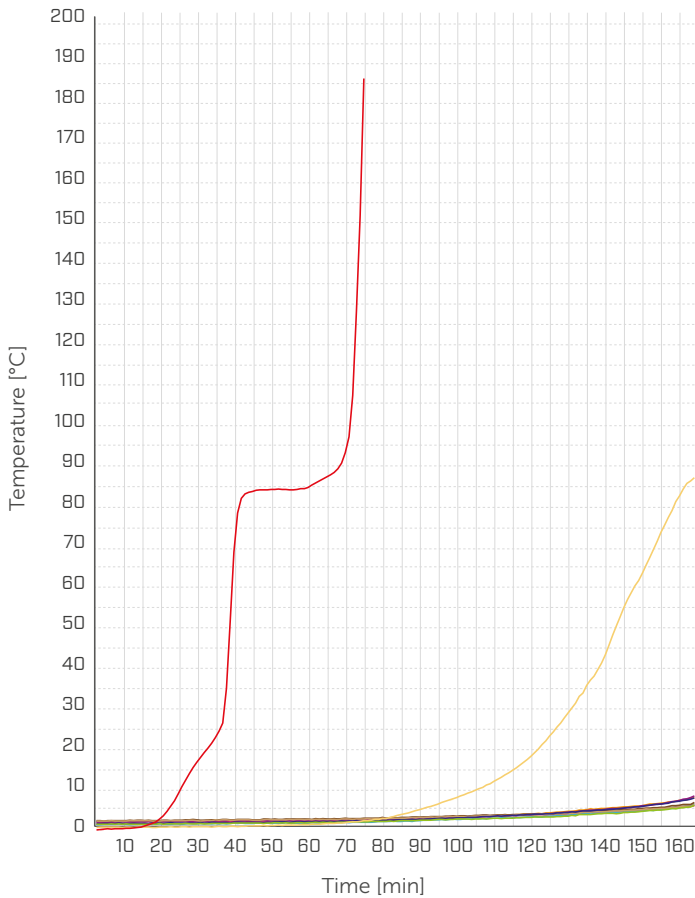
# JOINT h200 | 15 - TEST REPORT

JOINT WITH COVER PLATE AND PARTIAL THREAD SCREWS HBS6120, 2 MM GAP AND FIRE SEALING SILICONE

<b>TOP SEALANT</b>	<b>FIRE SEALING SILICONE</b>
<b>Description</b>	High fire-resistant silicone sealant
<b>Material</b>	Silicone
<b>BOTTOM SEALANT</b>	<b>without sealant</b>



FIRE SEALING SILICONE



## PERFORMANCE CRITERIA

Cotton swab  
**TIGHTNESS (E)** ————— **> 161 minutes**  
 Persistent flame



**INSULATION (I)** Time **> 161 minutes**

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	70	< 180°C
● 140 mm from slab bottom	TC 02	161	86°C
on the unexposed face of the slab	TC 05	161	8°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

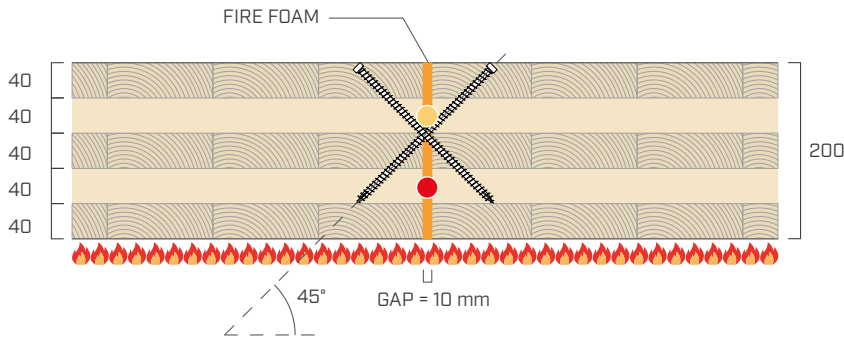
### LEGEND:

- TC 01 - 60 mm from bottom
- TC 04 - non-exposed face
- TC 07 - non-exposed face
- TC 10 - non-exposed face
- TC 02 - 140 mm from bottom
- TC 05 - non-exposed face
- TC 08 - non-exposed face
- TC 11 - non-exposed face
- TC 03 - non-exposed face
- TC 06 - non-exposed face
- TC 09 - non-exposed face

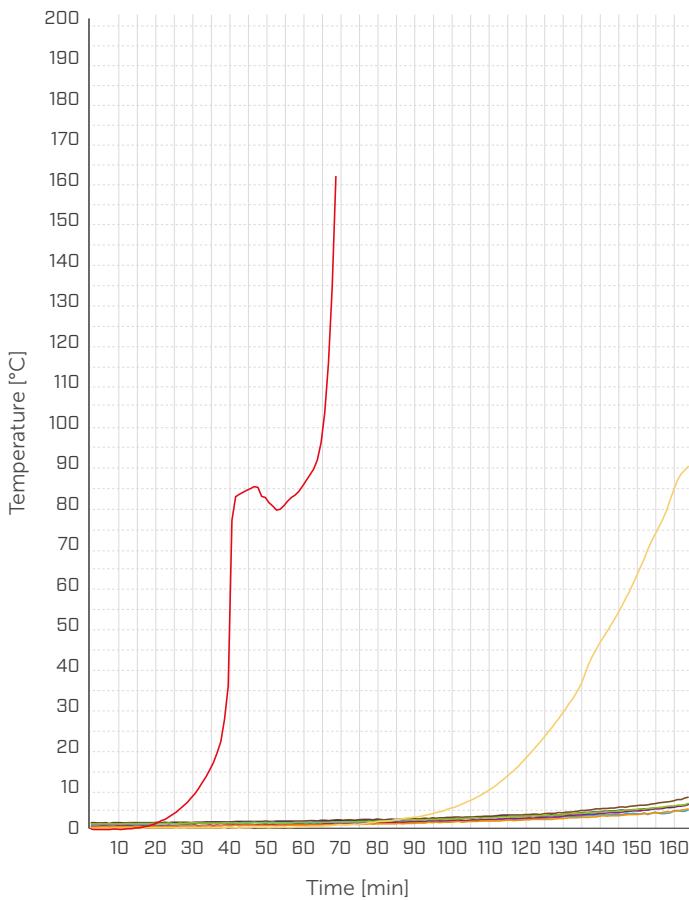
# JOINT h200 | 16 - TEST REPORT

## SIMPLE JOINT WITH CROSSED SCREWS VGZ9220, 10 mm GAP AND FIRE FOAM

SEALANT	FIRE FOAM
<b>Description</b>	High fire-resistant sealing foam
<b>Material</b>	Single component PU



FIRE FOAM



### PERFORMANCE CRITERIA

Cotton swab  
**TIGHTNESS (E)** > 161 minutes  
 Persistent flame



**INSULATION (I)** Time > 161 minutes

$\Delta T$ measured at the test end	Thermocouple [TC no.]	Time [min]	T°
● 60 mm from slab bottom (non-exposed face)	TC 01	60	< 180°C
● 140 mm from slab bottom	TC 02	161	90°C
on the unexposed face of the slab	TC 05	161	8°C

Reference standard: EN 1363-1:2020 | EN 1366-4:2021

#### LEGEND:

- TC 01 - 60 mm from bottom
- TC 03 - non-exposed face
- TC 05 - non-exposed face
- TC 07 - non-exposed face
- TC 02 - 140 mm from bottom
- TC 04 - non-exposed face
- TC 06 - non-exposed face
- TC 08 - non-exposed face



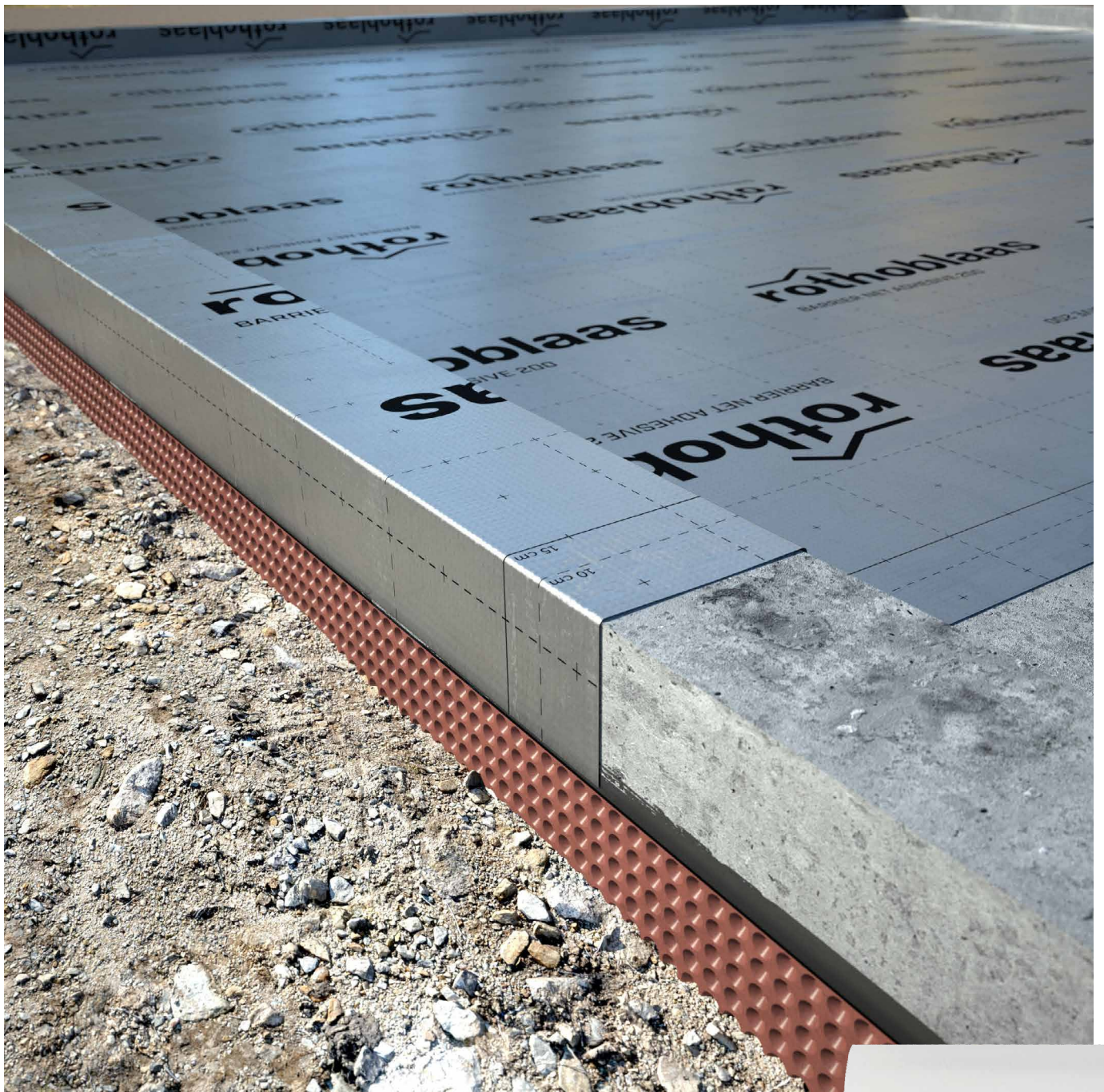
# If well protected, timber **lasts forever.**

It adheres perfectly and **protects timber** against weathering, UV radiation and the spread of flames with a **fire rating of B-s1,d0**.



Protect your construction, discover  
TRASPIR EVO UV ADHESIVE 250





## The secure foundation of **comfort and health.**

It adheres perfectly to the substrate and protects structures from the passage of moisture and radon gas. It reflects heat and **improves thermal performance**, with a **fire rating of B-s1,d0**.



Protect your construction, discover  
**BARRIER ALU NET ADHESIVE 300**



**Rotho Blaas Srl**

Via dell'Adige N.2/1 | 39040, Cortaccia (BZ) | Italia  
Tel: +39 0471 81 84 00 | Fax: +39 0471 81 84 84  
info@rothoblaas.com | www.rothoblaas.com

