

Pyroguard Infinity

Technical guidance document

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1 Introduction

This document summarises the installation details for Pyroguard Infinity Structural Wall System (SWS) products. Not all information is valid in all regions.

CF = Certifire BS assessment UK

CR = Classification report Europe (except where national systems exist)

Ext.= PV extension France

PV = France

NL = Netherlands

The following terms are used:

RV – Double Sided “Recto Verso”

SWS – Structural Wall System

T – Toughened

TVI – Triple Glazed Unit “Triple Vitrage Isolant”

VI – Double Glazed Unit “Vitrage Isolant”

VF – Laminated “Vitrage Feuilleté”

The Pyroguard Infinity range consists of two product types: Pyroguard T SWS and Pyroguard EI. Pyroguard T SWS is a toughened nanocomposite gel laminate with a black edge seal 13 mm thick. Pyroguard EI is an annealed glass sodium silicate waterglass laminate, this product is cuttable and stockable.

Users of this document should consult the original approvals before proceeding to specification and installation. In general, the constructions detailed in this document may be installed as ‘infinite’ screens; they may be repeated without restriction (see

Figure 1). The approved height of the construction is directly related to the approved height of the glazing, plus the necessary framing.

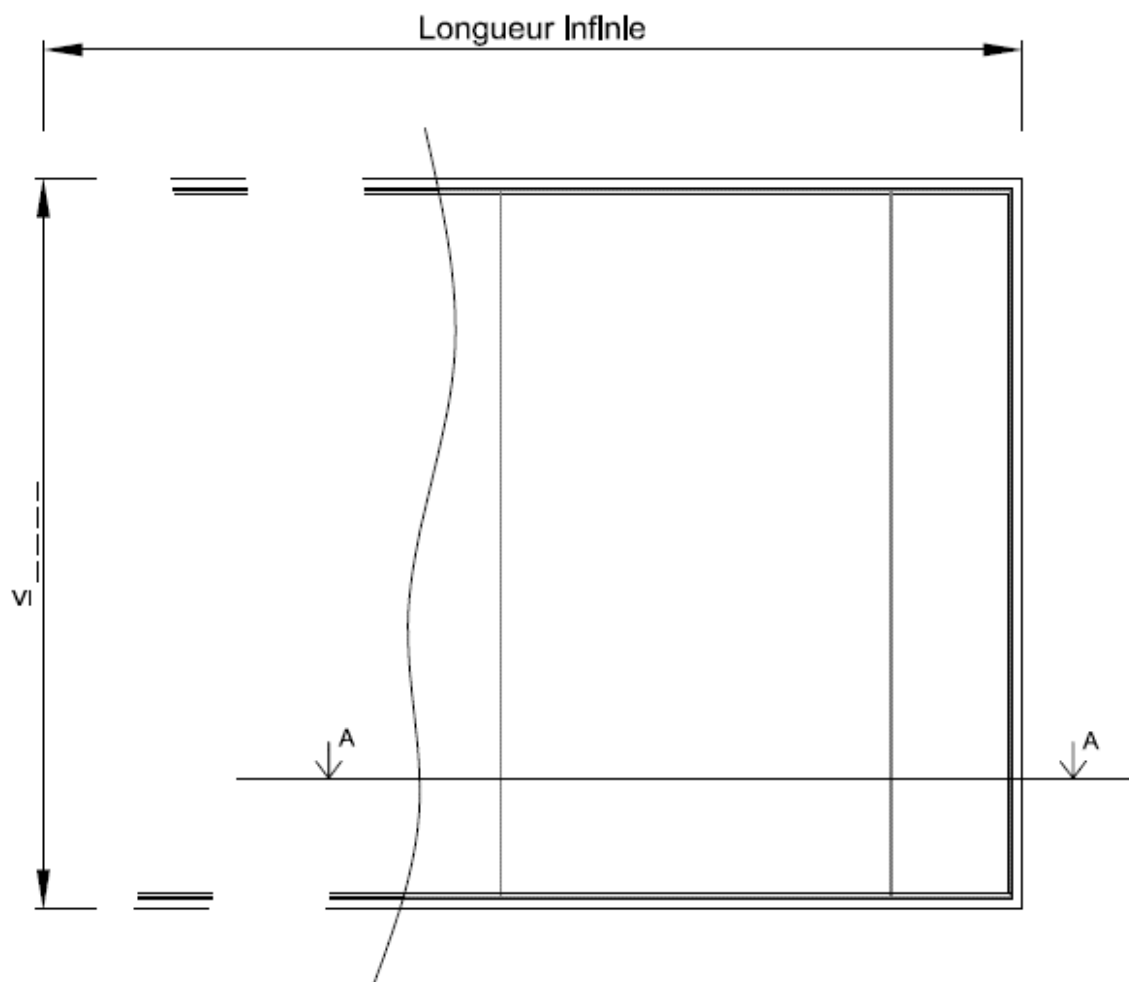


Figure 1 Illustration of a repeating SWS partition.

2 Summary of approvals

Application (system)	Class	Max glass area (m²)	Max Glass width (mm)	Max Glass height (mm)	Profile EN	Pyroguard Glass	Certification	Material	T, PV, CF, CR, AS, ATG, APP, BS ASS			
Structural wall / butt joint	EI60	4.20	1400	3000	Schüco ADS 80 FR 60	T-EI60/36-2 VF SWS	UL 13CA23012 Rev. 2	Aluminium	BS ASS			
	EW30	3.77	1300	2898	Forster Presto 50	T-EW30/24-2 SWS	EFR-21-002803 B	Steel	PV			
					Jansen Economy 50		EFR-21-002803 A					
	EW60	3.77	1300	2898	Forster Presto 50	T-EW60/24-2 SWS	EFR-21-002803 B		PV			
					Jansen Economy 50		EFR-21-002803 A					
	EI30	3.77	1300	2898	Forster Fuego Light 30	T-EI30/24-2 SWS	21-002161-PR01		Steel	ASS		
						T-EI30/24-2 SWS VF						
		5.13	1660	3946	Forster Fuego Light EI30	T-EI30/24-2 SWS	19/19770-972-1 CR			CR		
							13-A-445 + Ext 19/2				PV	
							4.67			1430		3592
							4.25			1300	3265	
		5.13	1660	3946		T-EI30/24-2 SWS VI	19/19770-972-1 CR			CR		
						T-EI30/32-2 SWS VI						
		4.91	1500	3270		T-EI30/32-2 VF SWS	EFR-19-000119-PV + Ext 19/1			PV		
		7.12	2160	3924		T-EI30/36-3 SWS	13-A-445 + Ext 19/2					
		6.42	2196	3480		T-EI30/36-2 VF SWS						
						T-EI30/40-2 VF SWS						
		4.34	1500	2895	Jansen Janisol 2	EI30 EXT	EFR-20-002524			CR		
		5.13	1560	1980		T-EI30/24-2 SWS	18/18542-2241 M1					
		4.24	1300	3265			EFR-19-04594			PV		
		5.39	1845	3592	Previously tested or CERTIFIRE approved steel framing system	EI30 EXT	CF437			CF		
						EI30 INT						
		5.09	1560	3918		T-EI30/24-2 SWS	CF5204					
		1.72	526	3270		T-EI30/32-2 SWS						
			421	4087								
	6.85	2100	3809	T-EI30/36-3 SWS								
		4.24	1300	3265	RP Hermetic 70 FP	T-EI30/24-2 SWS	EFR-19-004595			PV		

Application (system)	Class	Max glass area (m²)	Max Glass width (mm)	Max Glass height (mm)	Profile EN	Pyroguard Glass	Certification	Material	T, PV, CF, CR, AS, ATG, APP, BS ASS	
		4.34	1500	2895	Forster Fuego Light EI60	EI60 EXT+	12-A-461	Steel	PV	
Structural wall / butt joint		4.91		3270		T-EI60/32-2 SWS	EFR-19-001821-PV			
		7.12		3924		T-EI60/36-3 SWS	19/19770-976-1			CR
	7.11	2160	3918	19-19770-976-1 CR						
				ERF-19-V-000117-CR						
				EFR-18-V-003243-CR						
				19/19770-976-1 CR						
	6.69	1980	3591	T-EI60/36-2 VF SWS			EFR-19-001821-PV		PV	
	4.64	1920	2800	T-EI60/40-2 VF SWS						
	5.31	1830	2900	Forster Fuego Light EI90		T-EI90/47-3 SWS	EFR-18-V-003116-CR Rev. 1		CR	
	5.84	2013	3190		T-EI60/36-3 SWS	2019-A-080C	ASS			
	7.11	2160	3918	Jansen Janisol C4	T-EI60/36-3 SWS	EFR-19-04593	PV			
						EI60 EXT	CF437		CF	
					EI60 INT	CF5204				
					T-EI60/32-2 SWS					
	6.85	2100	3809	Previously tested or CERTIFIRE approved steel framing system	T-EI60/36-3 SWS					
	EI90	EI90	5.88	1800	3265	Forster Fuego Light EI90	T-EI90/36-3 SWS		20-22143-560-1 CR	CR
									EFR-19-004227 Rev 1	PV
			6.46	1980	3591		T-EI90/36-3 SWS VF		20-22143-560-1 CR	CR
									T-EI90/47-3 SWS	
EFR-19-004227 Rev 1							PV			
5.88			1800	3265	T-EI90/47-3 SWS VF		20-22143-560-1 CR		CR	
6.46			1980	3591	T-EI90/49-3 SWS		EFR-19-004227 Rev 1		PV	
6.14			1800	3410	Previously tested or CERTIFIRE approved steel framing system	T-EI90/36-3 SWS	CF5204		CF	
6.20			1900	3446		T-EI90/47-3 SWS				

Application (system)	Class	Max glass area (m²)	Max Glass width (mm)	Max Glass height (mm)	Profile EN	Pyroguard Glass	Certification	Material	T, PV, CF, CR, AS, ATG, APP, BS ASS	
plus 90 deg. option	EW30	5.94	1800	3924	Forster Fuego Light EI30	T-EI30/32-2 SWS	EFR-19-000119 CR	Steel	CR	
	EW60	5.40	1650	3597	Forster Fuego Light EI30	T-EI30/32-2 SWS	EFR-19-000119 CR EFR-19-000119 PV	Steel	CR	
		5.89		3567	Forster Fuego Light EI60	T-EI60/32-2 SWS	EFR-20-003405 Rev. 1		PV	
		5.40		3597	EFR-19-000119-PV + Ext 19/2					
		EI30		4.90	1500	3270	Forster Fuego Light 30		T-EI30/32-2 SWS T-EI30/32-2 SWS VF	21-002161-PR01
	5.94		1800	3924	Forster Fuego Light EI30	T-EI30/32-2 SWS	13-A-445 + Ext 19/2	PV		
							EFR-19-000119 CR	CR		
							EFR-19-000119 PV	PV		
							EFR-19-000119 PV + Ext 20/3			
	5.13		1660	3946	Jansen Janisol 2		19/19770-972-1	CR		
	4.90		1500	3270			2019-A-080C	ASS		
	4.24		1300	3265			EFR-19-04594	PV		
	6.13		1875	4087	Previously tested or CERTIFIRE approved steel framing system		CF5204		CF	
	EI60	4.91	1500	3270	Forster Fuego Light EI60		T-EI60/32-2 SWS	EFR-19-000119-PV + Ext 19/2 EFR-20-003405 Rev. 1	Steel	PV
					Jansen Janisol C4		EFR-19-04593			
		4.90			T-EI60/36-3 SWS	2019-A-080C	ASS			
		5.13	1625	3542	Previously tested or CERTIFIRE approved steel framing system	T-EI60/32-2 SWS	CF5204	CF		

Application (system)	Class	Max glass area (m²)	Max Glass width (mm)	Max Glass height (mm)	Profile EN	Pyroguard Glass	Certification	Material	T, PV, CF, CR, AS, ATG, APP, BS ASS	
Structural wall / butt joint	EI30	5.31	1830	2900	Hardwood density: >680 kg/m³	T-EI30/32-2 VF SWS	13-A-426	Timber	PV	
						T-EI30/32-2 VF SWS VI	13-A-426 + Ext15/1			
		4.35	1500	3625	Hardwood density: 680 kg/m³	EI60 INT	CF437		CF	
		6.63	2288			T-EI30/32-2 VF SWS	CF5204			
		5.30	1830	2900		T-EI60/36-2 VF SWS				
						T-EI60/40-2 VF SWS				
		3.80	1573	3478	Softwood density ≥450 kg/m3	T-EI30/24-2 SWS	C2058-3E-RA-001		ASS	
					T-EI30/24-2 SWS VF					
		3.77	1300	2898	Softwood density ≥573 kg/m3	T-EI30/24-2 SWS	21-002161-PR01			
					T-EI30/24-2 SWS VF					
		4.71	1625	3622	Timber density: >573 kg/m3	T-EI30/24-2 SWS	CF5204		CF	
	EW60/EI30	3.80	1573	3478	Softwood density ≥450 kg/m3	T-EI30/24-2 SWS	C2058-3E-RA-001	Timber	ASS	
	EW60/EI30	3.80	1573	3478	Softwood density ≥450 kg/m3	T-EI30/24-2 SWS VF	C2058-3E-RA-001	Timber	ASS	
	E60/EI30	4.71	1625	3622	Timber density: >573 kg/m3	T-EI30/24-2 SWS	CF5204	Timber	CF	
	EI60	5.31	1830	2900	Hardwood density: >650 kg/m3	T-EI60/36-2 VF SWS	13-A-421 + Ext 15/1	Timber	PV	
						T-EI60/40-2 VF SWS	13-A-421			
		5.84	2013	3190	Hardwood density: >680 kg/m³		13-A-421 + Ext 16/2			
							13-A-421 + Ext 18/3			
5.66		1952	3093	Hardwood density: 650 kg/m³	T-EI30/36-2 VF SWS	CF5204	CF			
	T-EI30/40-2 VF SWS									
plus 90 deg. option	EI30	4.91	1500	3270	Hardwood density: >680 kg/m³	T-EI30/32-2 SWS	13-A-426 + Ext 20/4	Timber	PV	
		4.90			Softwood density ≥573 kg/m3		21-002161-PR01		ASS	
									T-EI30/32-2 SWS VF	
	EI60	4.91			Hardwood density: >680 kg/m³	T-EI60/32-2 SWS	13-A-426 + Ext 20/3		PV	

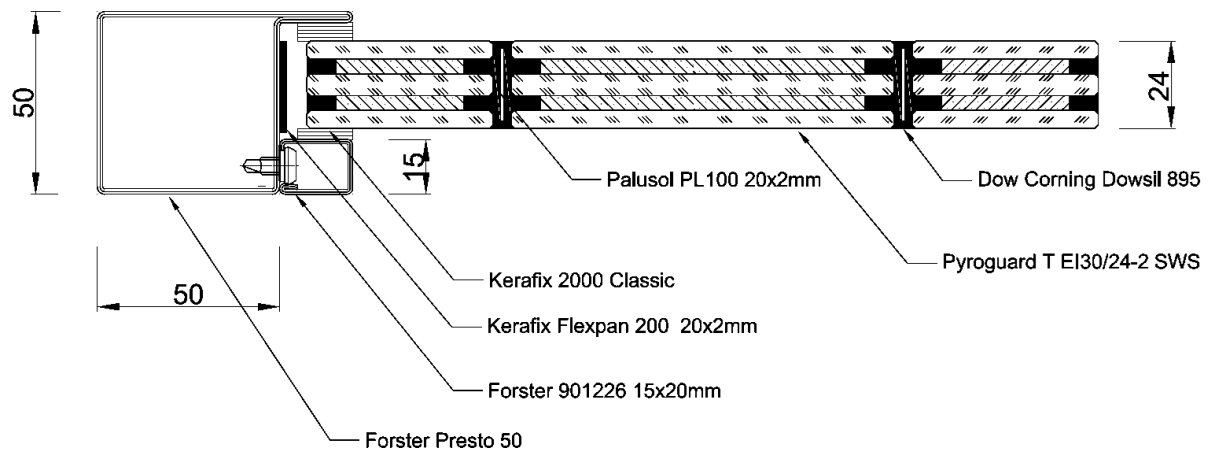
3 Steel – EW30 and EW60

3.1 Forster Presto 50

3.1.1 EFR-21-002803-B

3.1.1.1 Pyroguard T-EW30/24-2 SWS & Pyroguard T-EW60/24-2 SWS

- EW30 and EW60 applications
- Economical framing solution
- 4 mm wide joint composed of two strips of Palusol PL100 20x2 mm and two beads of Dow Corning 895 joint sealing compound
- Kerafix Flexpan 200 Liner



3.1.2 Forster Fuego Light EI30

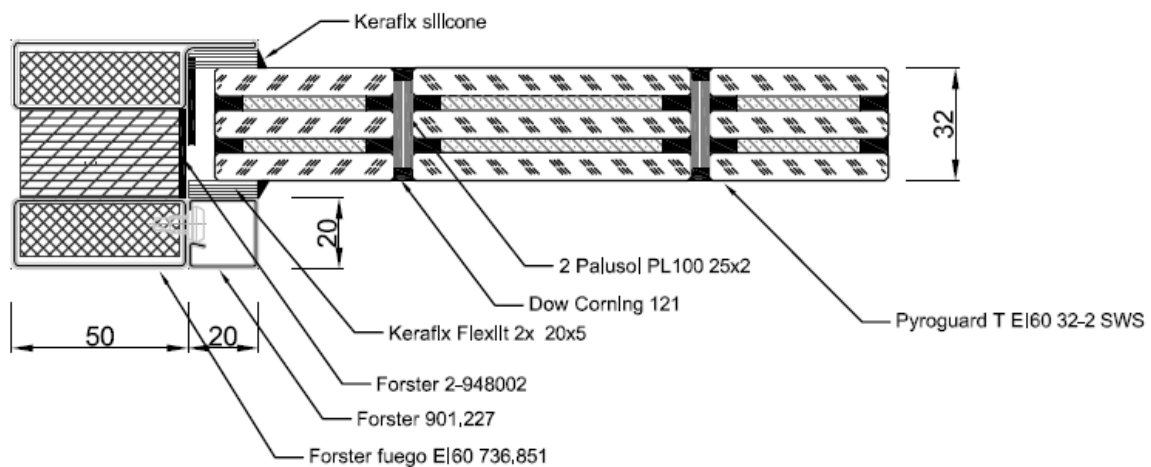
3.1.2.1 EFR-19-000119 PV + EFR-19-000119 PV ext.19/3

3.1.2.2 Pyroguard T-EI30/32-2 SWS

- For EW30 and EW60 applications
- Forster Fuego Light EI30
- Glazing beads: (2x) 20 x 2 or 5 mm Kerafix Flexlit capped with Kerafix silicone

3.1.2.3 Frame lined with Forster 2-948002

- Glass joint: (2x) 25 x 2 mm Palusol PL100 capped with Dow Corning 1-2-1 silicone
- EFR-19-000119 PV ext. 19/1
- Allows the option to make into a VF configuration (one fire direction only)
- Allows for the exchange of Dow Corning 1-2-1 silicone for Sealmaster Fireglaze (straight butt-joints only)
- EFR-19-000119 Ext.21/4 approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1

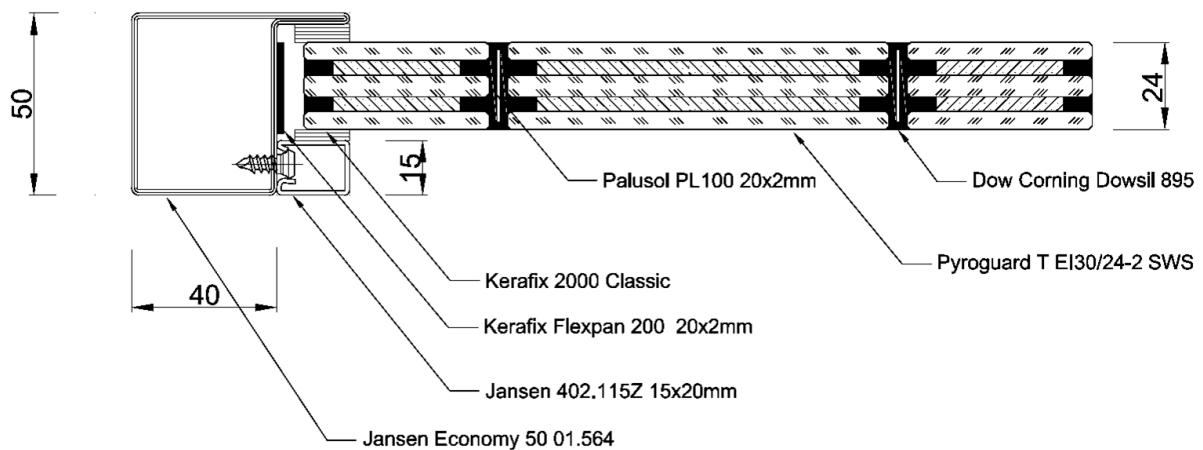


3.2 Jansen Economy 50

3.2.1 EFR-21-002803-A

3.2.1.1 Pyroguard T-EW30/24-2 SWS & Pyroguard T-EW60/24-2 SWS

- EW30 and EW60 applications
- Economical framing solution
- 4 mm wide joint composed of two strips of Palusol PL100 20x2 mm and two beads of Dow Corning 895 joint sealing compound
- Kerafix Flexpan 200 Liner



4 Steel – EI30

4.1 Forster Forster Fuego Light EI30

4.1.1 EFR-19-000119 PV + EFR-19-000119 PV ext. 19/3

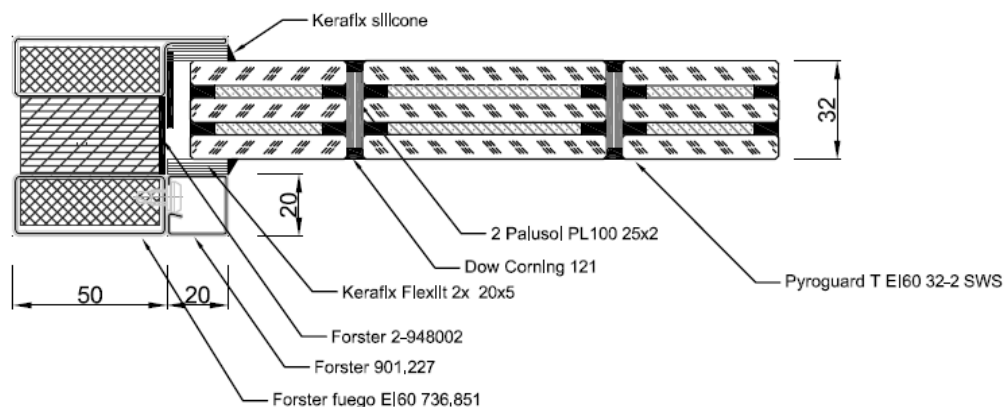
4.1.1.1 Pyroguard T-EI30/32-2 SWS

- For EI30 applications
- Forster Fuego Light EI30
- Glazing beads: (2x) 20 x 2-5 mm Kerafix Flexlit capped with Kerafix silicone
- Frame lined with Forster 2-948002
- Glass joint: (2x) 25 x 2 mm Palusol PL100 capped with Dow Corning 1-2-1 silicone

4.1.2 EFR-19-000119 PV ext.19/1

4.1.2.1 Pyroguard T-EI30/32-2 SWS

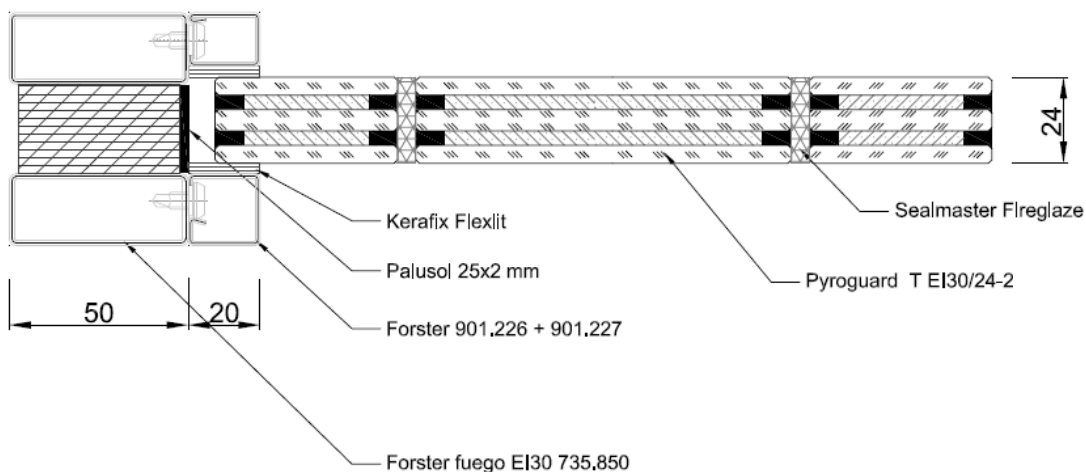
- Allows the option to make into a VF configuration (one fire direction only)
- Allows for the exchange of Dow Corning 1-2-1 silicone for Sealmaster Fireglaze (straight butt-joints only)
- EFR-19-000119 Ext.21/4 approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1



4.1.3 13-A-445 PV, 13-A-445 PV ext. 19/2 and CF5204

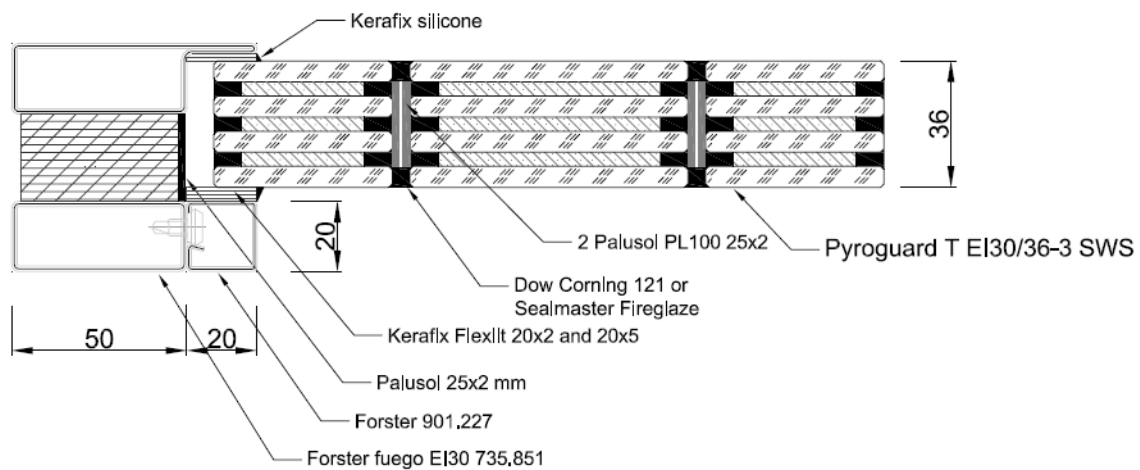
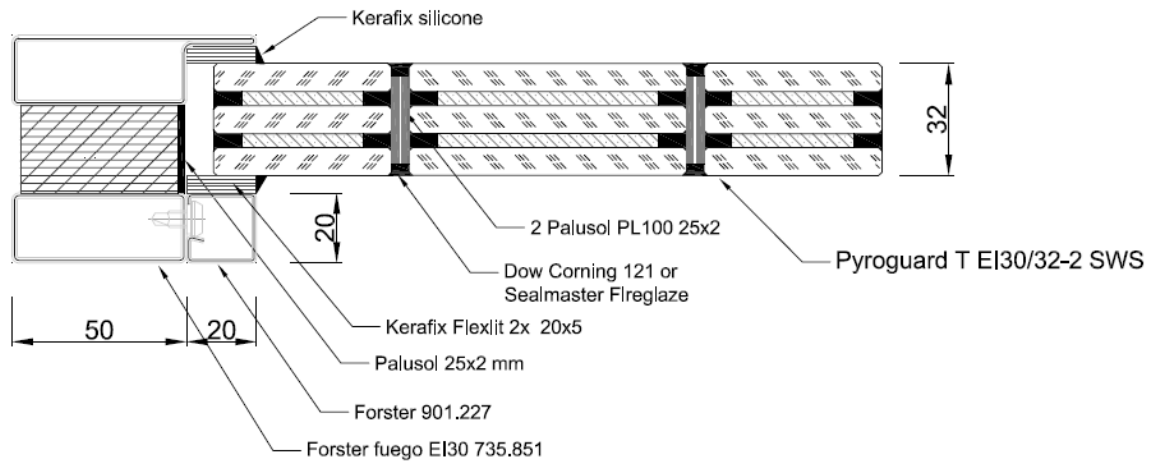
4.1.3.1 Pyroguard T-EI30/24-2 SWS, T-EI30/32-2 SWS and T-EI30/36-3 SWS

- Glazing beads: 20 x 3 mm Kerafix Flexlit ceramic tape
- Internal frame lined with 25 x 2 mm Palusol PM SA (Odice) intumescent strip
- Glass joint: 24 x 5 mm Sealmaster Fireglaze
- The 'EI60' glasses can also be used for EI30 according to the glazing specification set out;



4.1.4 13-A-445 PV ext. 19/2

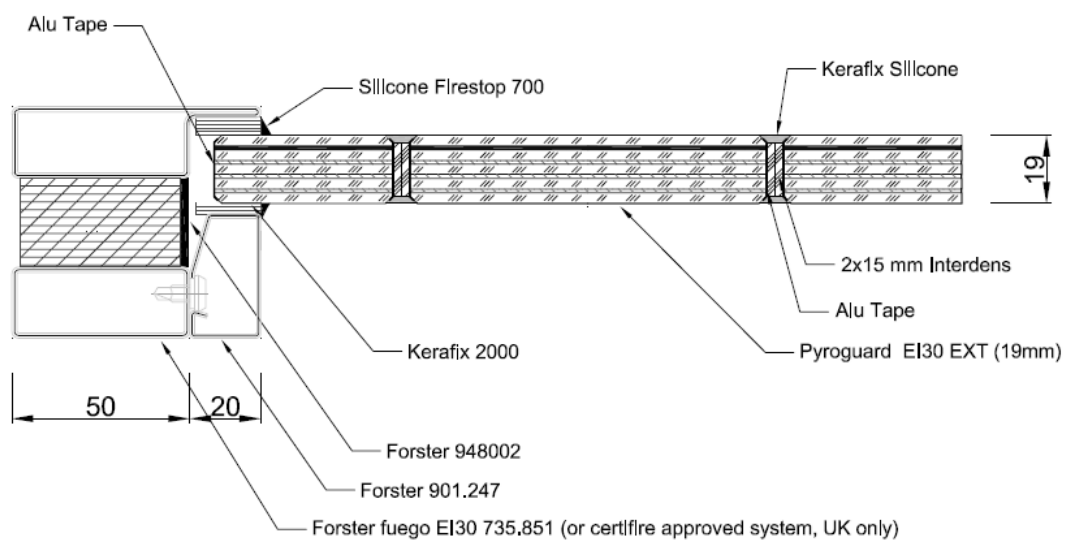
- Glazing beads: (2x) 20 x 5 mm Kerafix Flexlit
- Internal frame lined with 25 x 2 mm Palusol
- Glass joint: 32 x 5 mm Dow Corning 1-2-1 or Sealmaster Fireglaze (check drawings below)
- 13-A-445 Ext.21/3 approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1



4.1.5 CF437 and RF11097

4.1.5.1 Pyroguard EI30 INT & EXT.

- Certifire rules: any previously tested or Certifire approved insulated steel systems
- Glazing beads: 20 x 3 mm K Tape capped with Gluske Kerafix silicone sealant
- Glass joints: (2x) 15 x 2 mm Interdens capped with Gluske Kerafix silicone sealant



4.1.6 Z-19.14-2640

4.1.6.1 T-EI30/24-2 SWS, T-EI30/24-2 SWS VF, T-EI30/32-2 SWS and T-EI30/32-2 SWS VF

IFT and DIBT were asked to approve the use of Pyroguard Infinity products for use in Germany. For installations in the Forster Fuego Light EI30 system they approved the following dimensions:

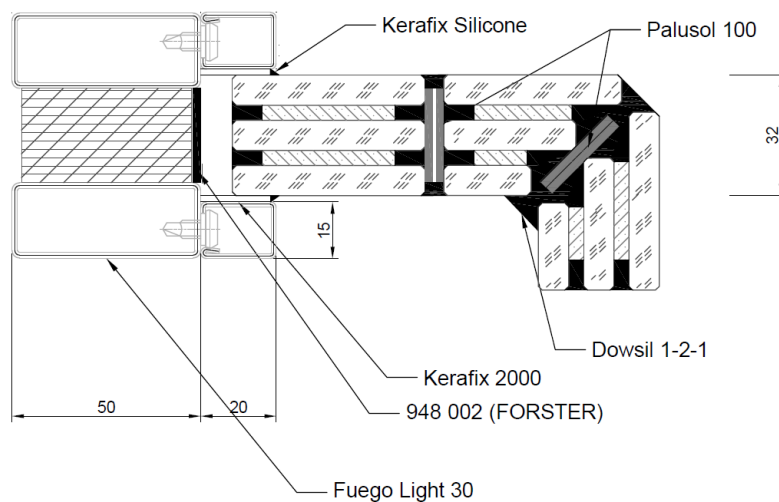
"Pyroguard T-EI30/24-2" SWS 1300 x 2898

"Pyroguard T-EI30/32-2" SWS 1500 x 3270

"Pyroguard T-EI30/24-2" VF SWS 1300 x 2898

"Pyroguard T-EI30/32-2" VF SWS 1500 x 3270

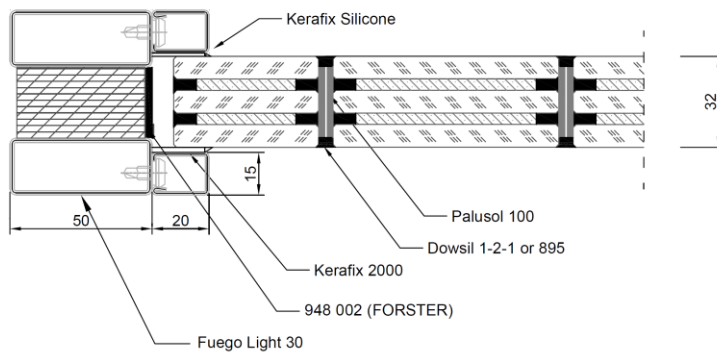
- 90° angles allowed for 32-2 SWS and 32-2 VF SWS



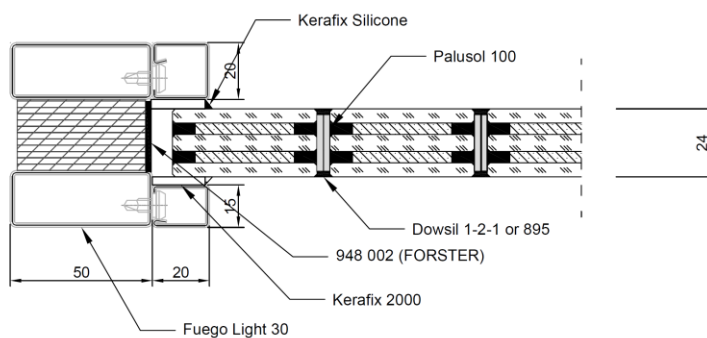
- Glazing beads: $\geq 20 \times 2$ mm Kerafix 2000 ceramic tape capped with Gluske Kerafix silicone sealant (optional)
- Internal frame lined with 25×2 mm 948 002 (Forster) intumescent strip (Palstop)

- Glass joint:
 - 24-2 SWS (+VF): one 20 x 2 mm Palusol 100 (Odice) on each edge + Dow Corning 1-2-1 or Dow Corning Dowsil 895
 - 32-2 SWS (+VF): one 25 x 2 mm Palusol 100 (Odice) on each edge + Dow Corning 1-2-1 or Dow Corning Dowsil 895 (895 not allowed for 90° angles)

Pyroguard T-EI30/32-2 SWS



Pyroguard T-EI30/24-2 SWS

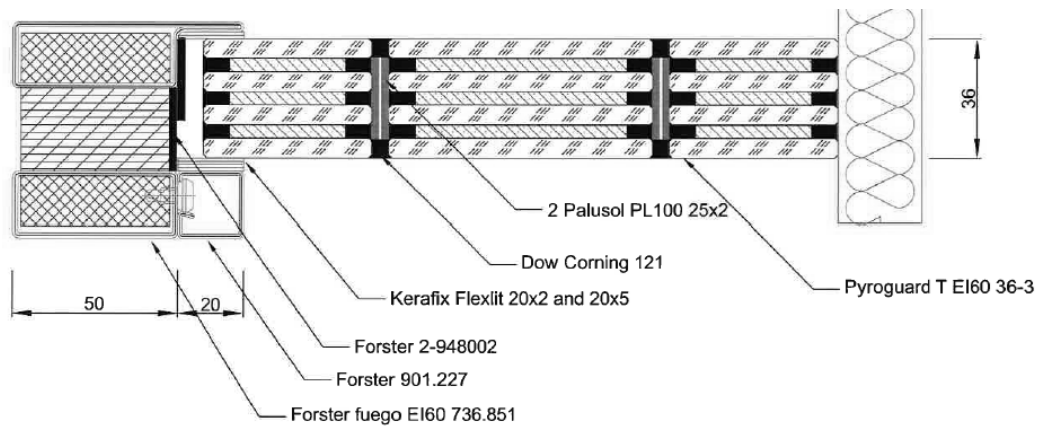


4.2 Forster Fuego Light EI60 For EI30 applications

4.2.1 EFR-19-000117 PV and EFR-19-000117 CR

4.2.1.1 Pyroguard T-EI30/36-3 SWS

- Glazing beads: 20 x 2 mm and 20 x 5 mm (7 mm thickness in total) Kerafix Flexlit capped with Kerafix silicone
- Frame lined with Forster 2-948002
- Glass joint: (2x) 25 x 2 mm Palusol PL100 capped with Dow Corning 1-2-1 silicone

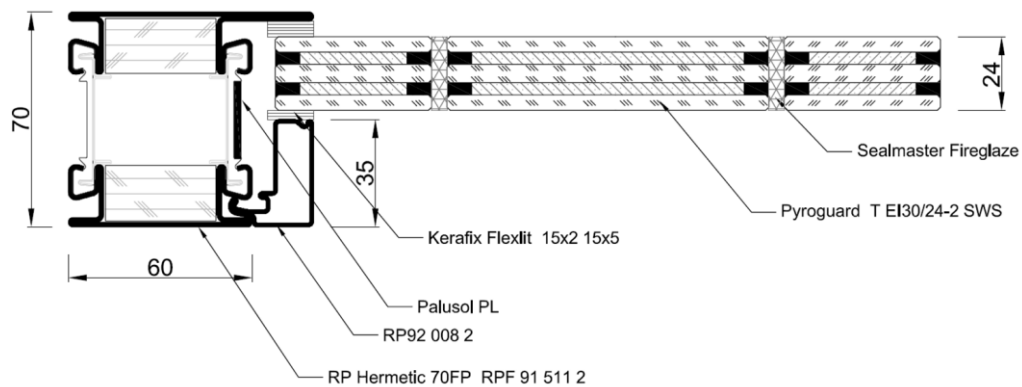


4.3 RP Technic RP Hermetic 70FP EI30

4.3.1 EFR-19-004595 PV

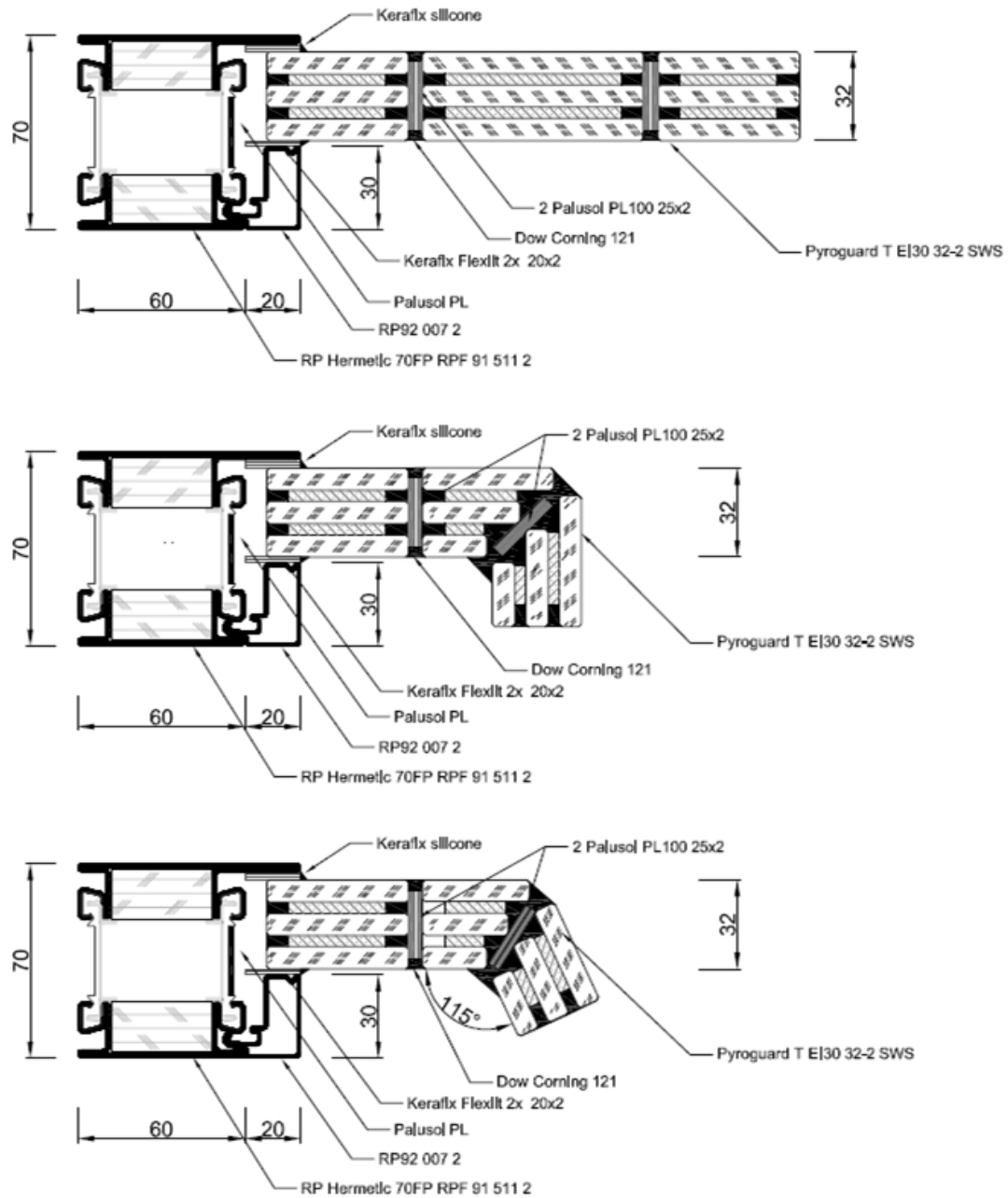
4.3.1.1 Pyroguard T-EI30/24-2 SWS

- EFR-19-004595 PV ext.21/1 approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1



4.3.1.2 Pyroguard T-EI30/32-2 SWS

- EFR-19-004595 PV ext.21/1 approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1

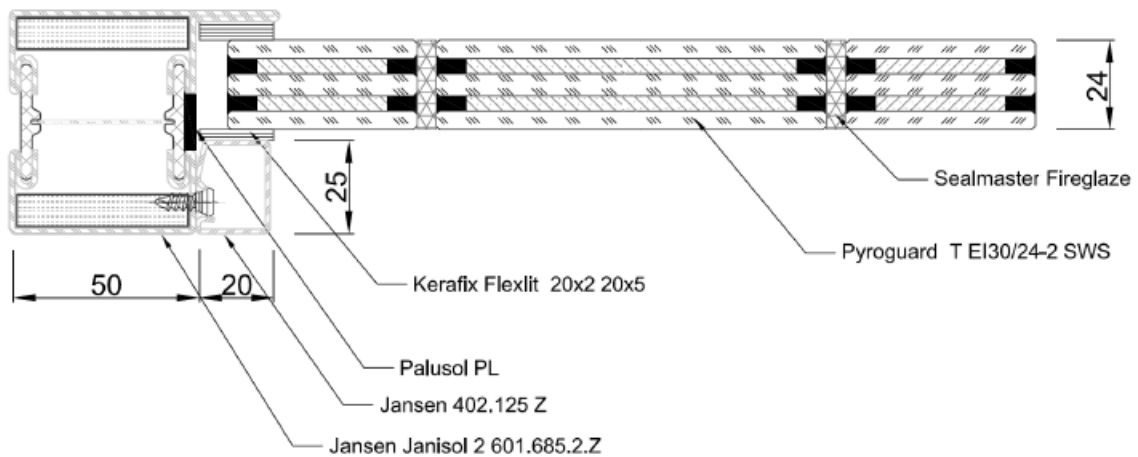


4.4 Jansen Janisol 2

4.4.1 EFR-19-004594 PV

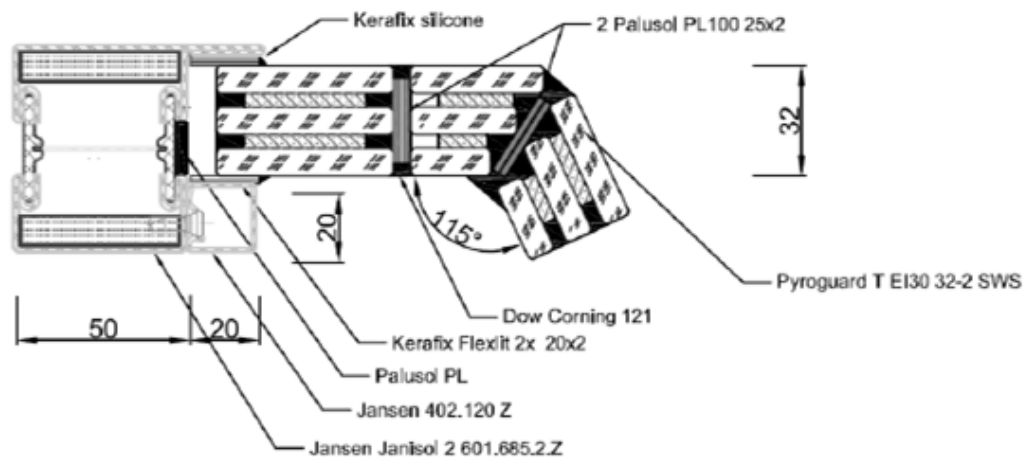
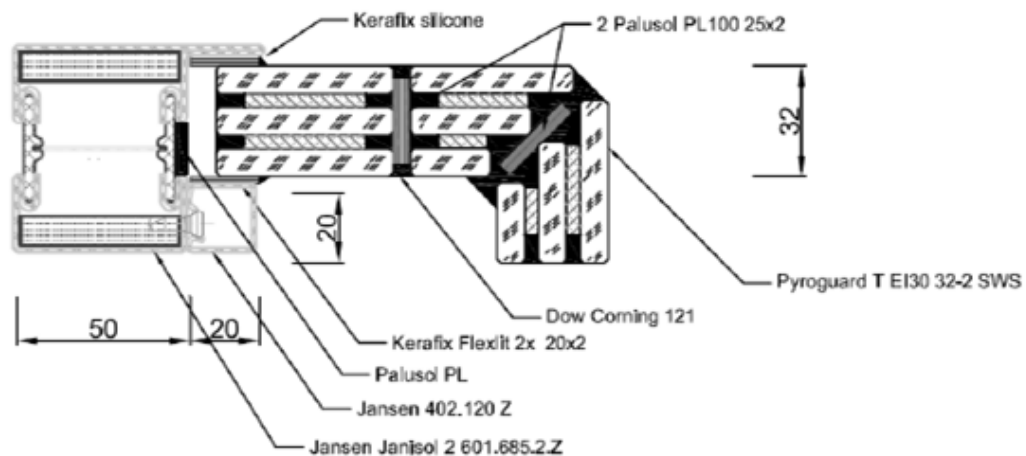
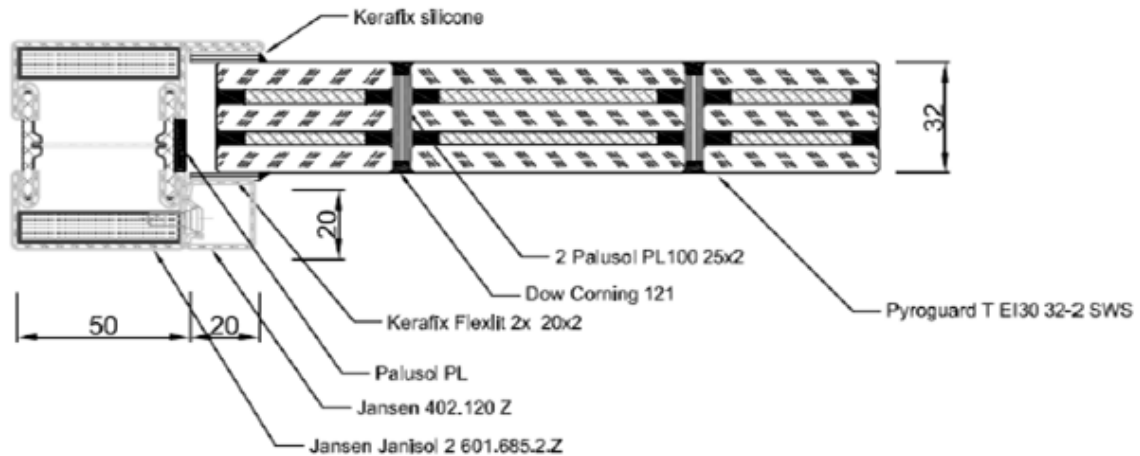
4.4.1.1 Pyroguard T-EI30/24-2 SWS

- EFR-19-004594 PV ext.21/1 approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1



4.4.1.2 Pyroguard T-EI30/32-2 SWS

- EFR-19-004594 PV ext.21/1 approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1



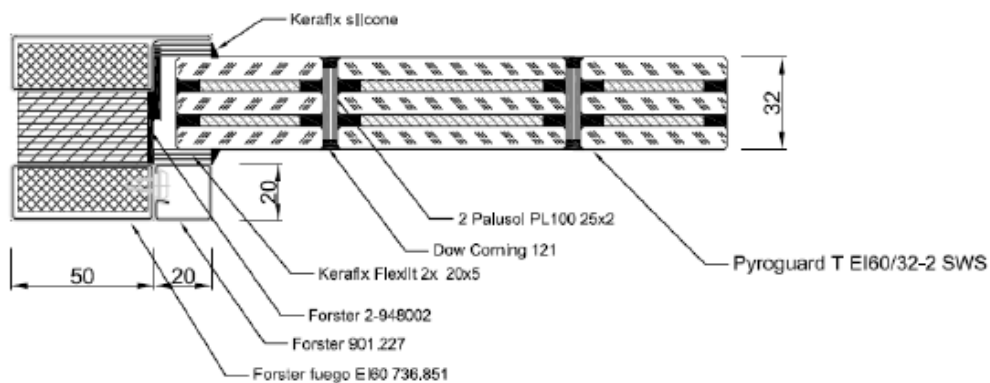
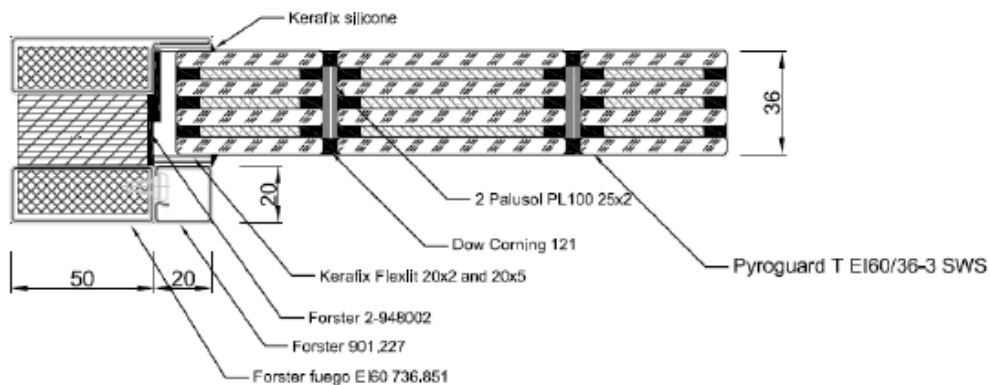
5 Steel – EI60

5.1 Forster Fuego Light EI60

5.1.1 EFR-19-001821 PV

5.1.1.1 Pyroguard T-EI60/32-2 SWS and Pyroguard T-EI60/36-3 SWS

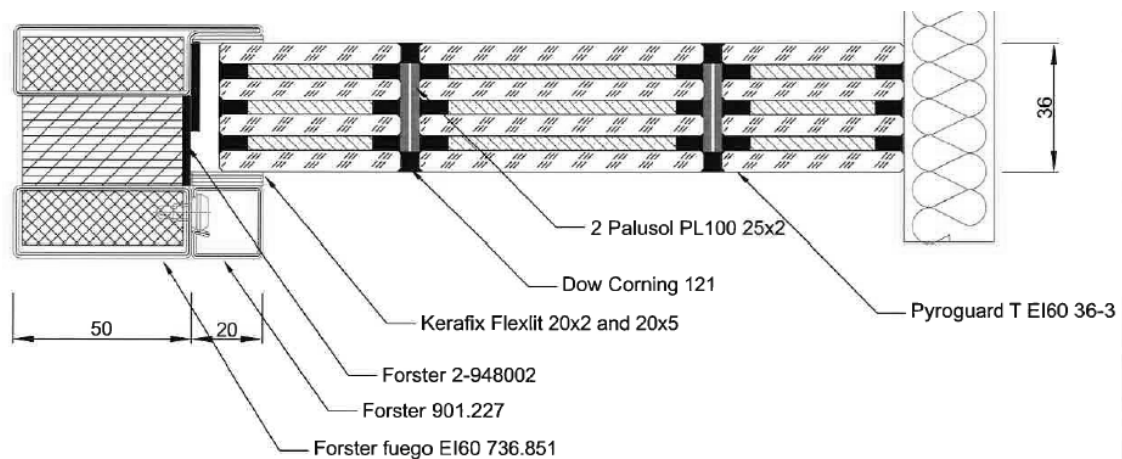
- For EI60 applications
- Forster Fuego Light EI60
- Glazing beads: see diagrams below
- Frame lined with Forster liner ref. 2-948002
- Glass joint: 32-2 SWS & 36-3 SWS = (2x) 25 x 2 mm Palusol PL100, 36-2 & 40-2 VF SWS = Sealmaster Fireglaze compound
- EFR-19-001821 PV ext.21/1 approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1



5.1.2 EFR-19-001821 PV, EFR-19-001821 PV ext.21/1, EFR-18-V-003243 CR and EFR-19-000117 CR

5.1.2.1 Pyroguard T-EI60/36-3 SWS

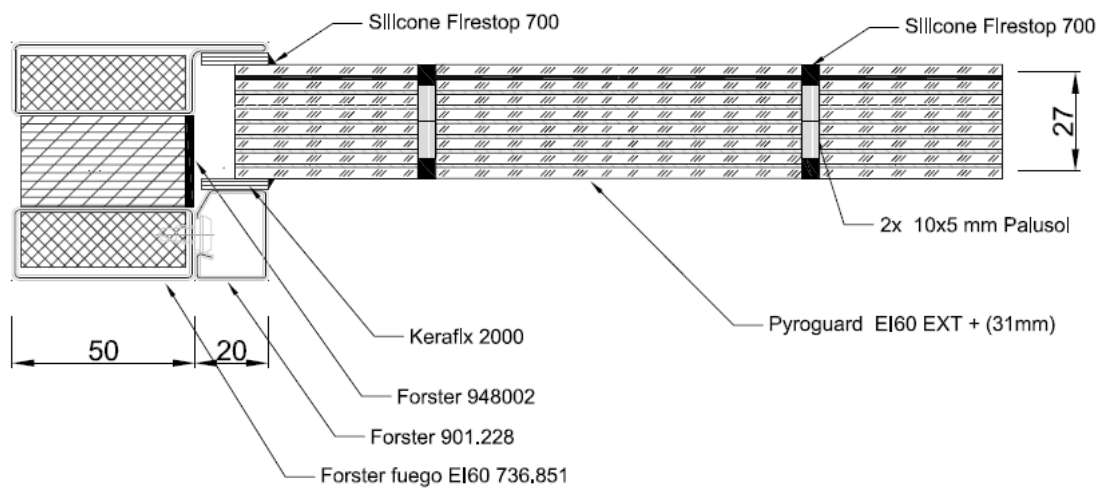
- For EI60 applications
- Forster Fuego Light EI60
- Glazing beads: 20 x 2 mm and 20 x 5 mm (7 mm in total thickness) Kerafix Flexlit capped with Kerafix silicone
- Frame lined with Forster liner ref. 2-948002
- Glass joint: (2x) 25 x 2 mm Palusol PL100 capped with Dow Corning 1-2-1 silicone sealant
- EFR-18-V-003243 CR allows for the use of Sealmaster Fireglaze sealant for the glass joint capping
- EFR-19-001821 PV ext.21/1 Approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1



5.1.3 12-A-461 PV

5.1.3.1 Pyroguard EI60 EXT+

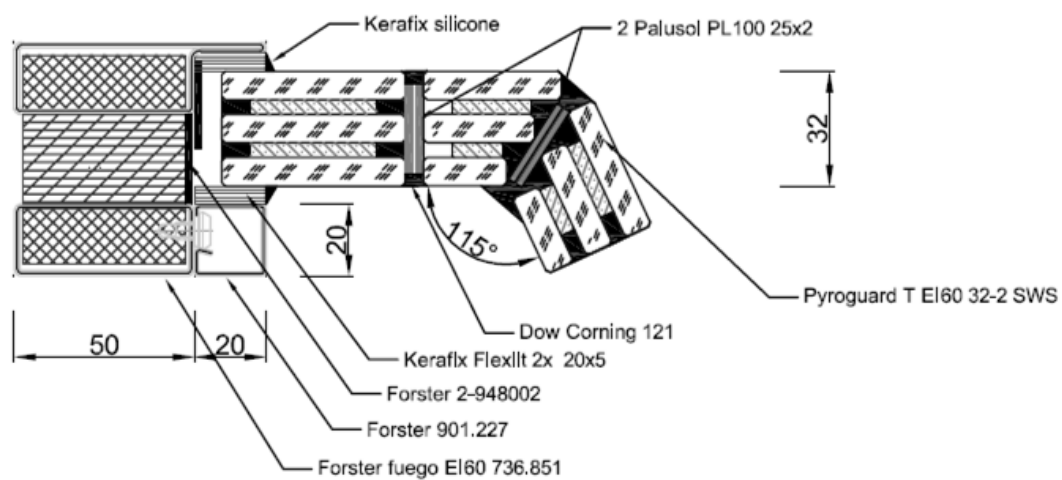
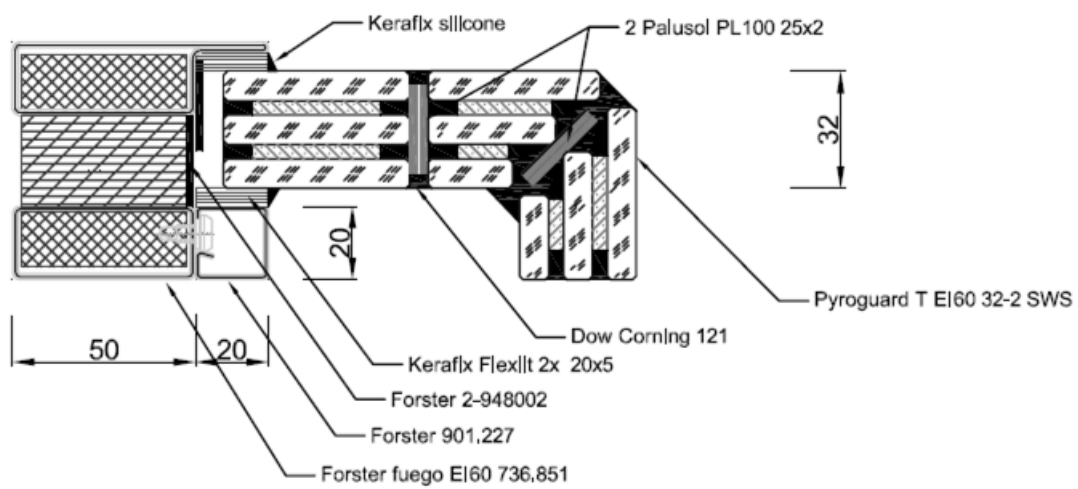
- For EI60 applications
- Forster Fuego Light EI60
- Glazing beads: Kerafix 2000 capped with Firestop 700 silicone
- Frame lined with Forster ref. 948.002 (25 x 3 mm)
- Glass joint: (2x) Palusol 10 x 5 mm side by side capped with Firestop 700 silicone



5.1.4 EFR-19-000119 PV ext. 19/2

5.1.4.1 Pyroguard T-EI60/32-2 SWS

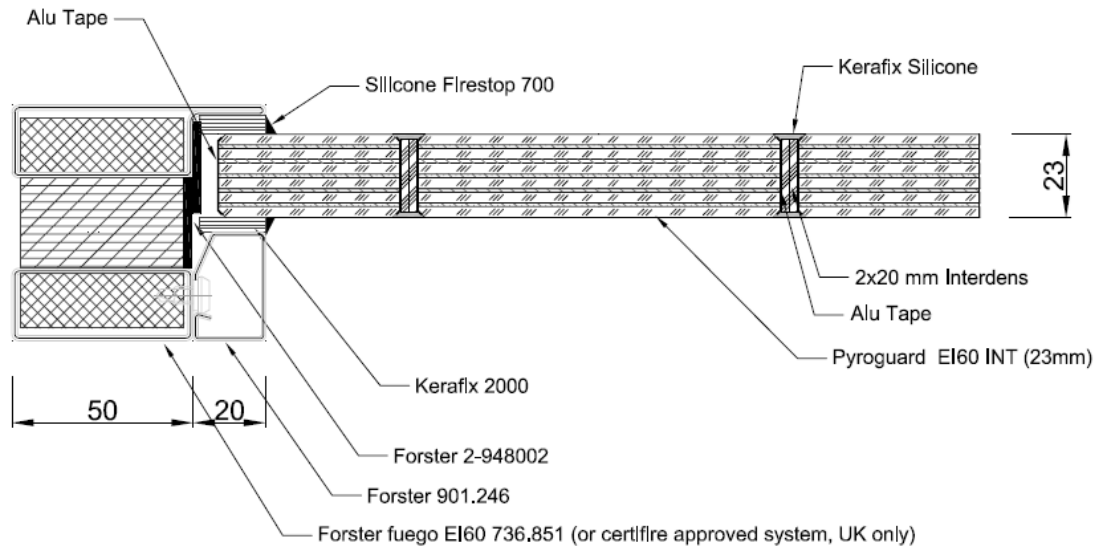
- EFR-19-000119 PV ext. 19/2 allows for use of Pyroguard T-EI60/32-2 SWS for EI60 applications
- 90° and up to 115°



5.1.5 CF437

5.1.5.1 Pyroguard EI60 INT & EXT

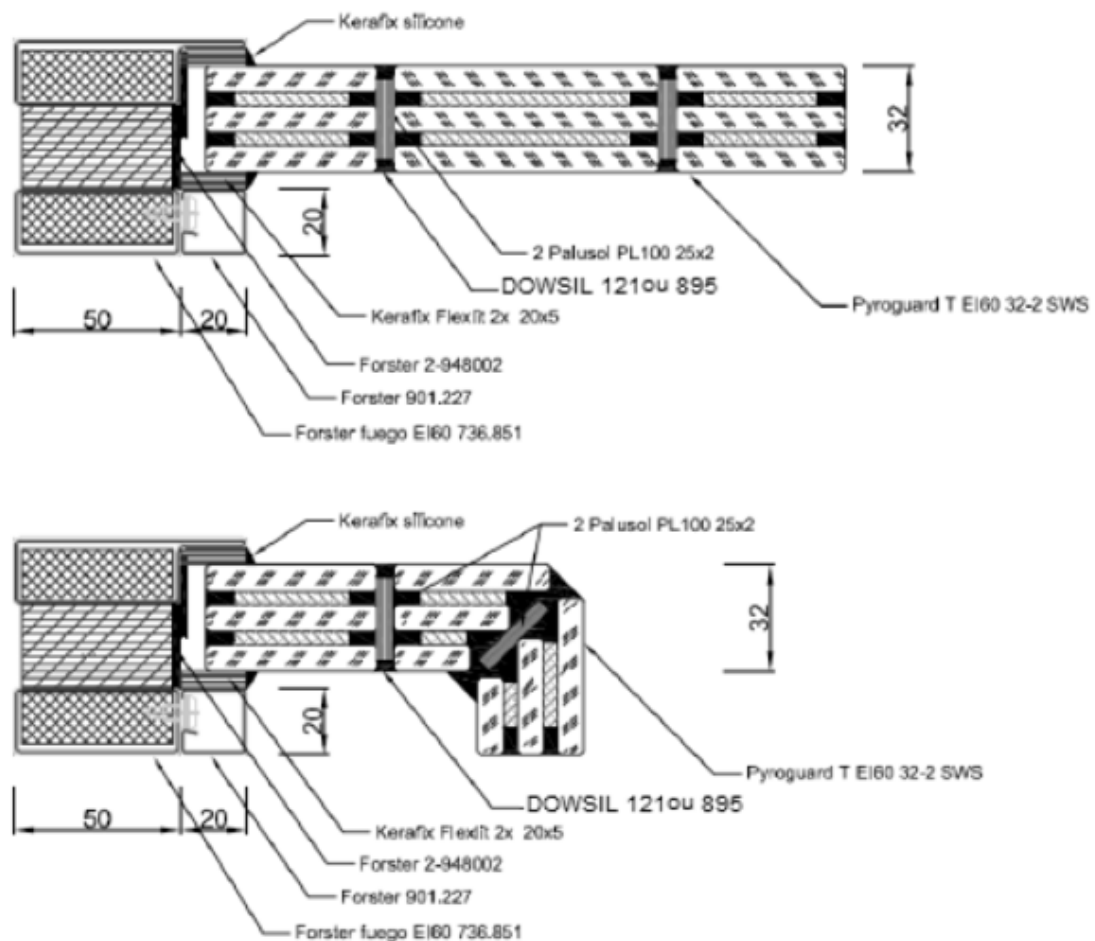
- For EI60 applications
- Certifire rules: any previously tested or Certifire approved insulated steel systems
- Glazing beads: 15 x 3 mm K-Tape capped with Kerafix fire resistant silicone
- Glass joint: (2x) 20 x 2 mm Interdens capped with Kerafix silicone sealant



5.1.6 EFR-20-003405 PV

5.1.6.1 Pyroguard T-EI60/32-2 SWS + Pyroguard T-EI60/32-2 SWS VF (with 90° joint options)

- Forster Fuego Light EI60 steel system
- 90° joint option
- Validation of Dowsil 895 and Dowsil 1-2-1 in the butt joint junctions

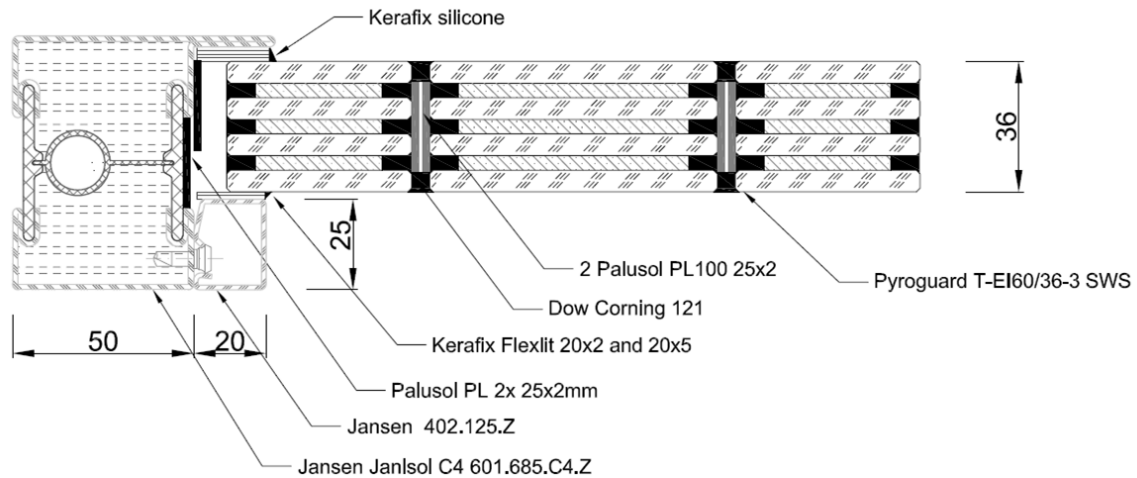


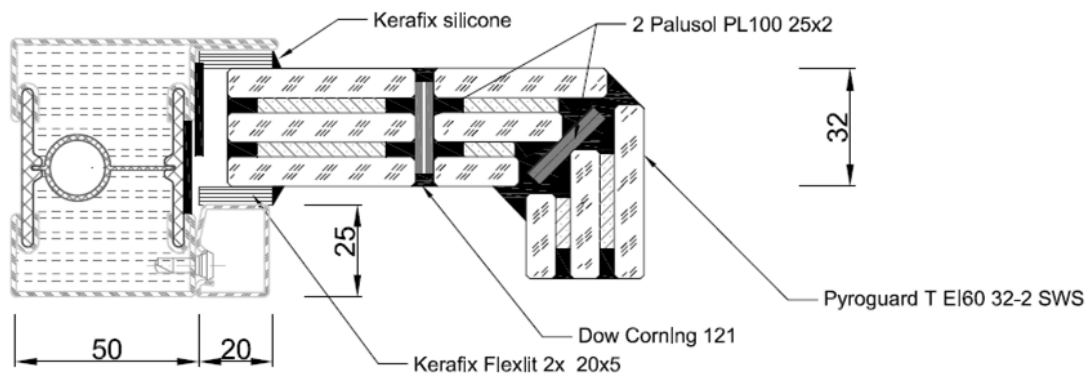
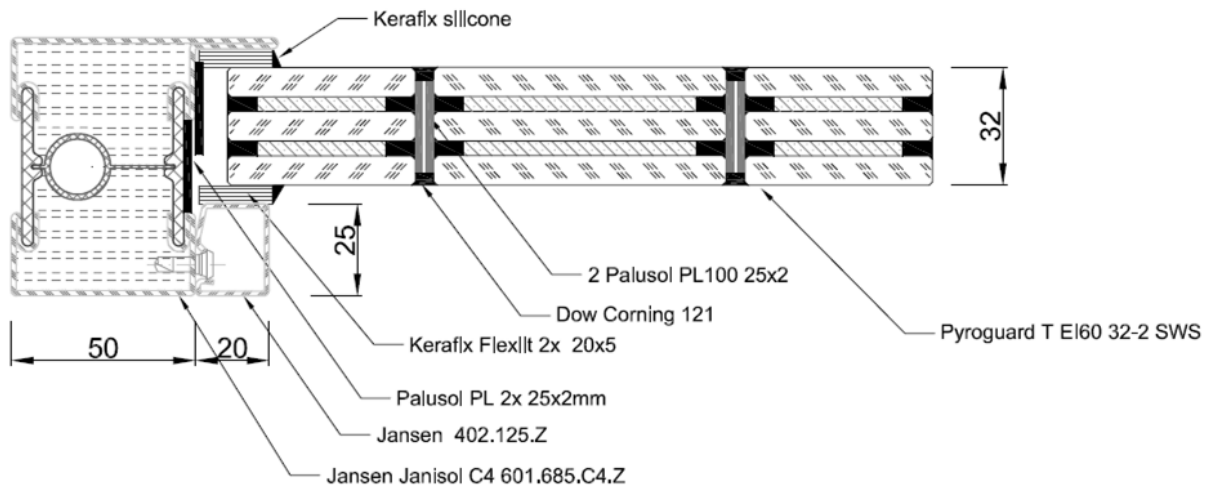
5.2 Jansen Janisol C4

5.2.1 EFR-19-004593 PV

5.2.1.1 Pyroguard T-EI60/32-2 SWS Pyroguard T-EI60/36-3 SWS

- For EI60 applications
- Jansen Janisol C4
- Glazing media: 20 x 5 mm and 15 x 5 mm Gluske Kerafix Flexlit
- (2x) 25 x 2 mm Palusol PL and 40 x 5 mm Sealmaster Fireglaze or Dow Corning 1-2-1
- EFR-19-004593 Ext.21/1 approval of Dow Corning Dowsil 895 to replace Sealmaster Fireglaze or Dow Corning Dowsil 1-2-1





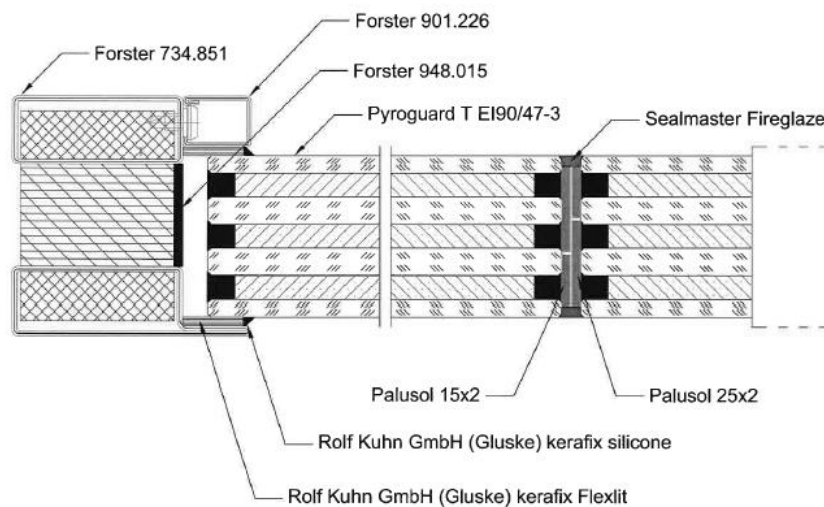
6 Steel – EI90

6.1 Forster Fuego Light EI90

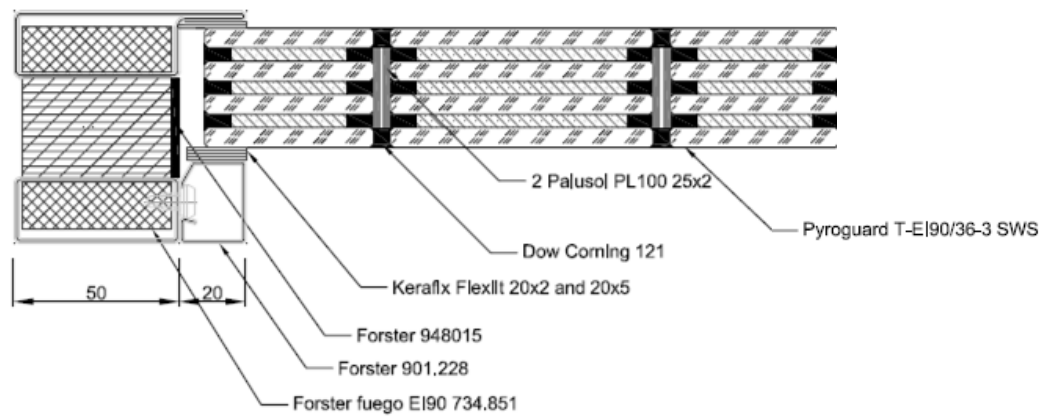
6.1.1 EFR-19-004227 PV + CF5204

6.1.1.1 Pyroguard T-EI90/47-3 SWS + Pyroguard T-EI90/49-3 SWS

- Glazing beads: 20 x 2 mm Kerafix Flexlit capped with Kerafix silicone
- Frame lined with Forster ref. 948015
- Glass joint: 15 x 2 mm and 25 x 2 mm Palusol PL100 side by side capped with Sealmaster Fireglaze



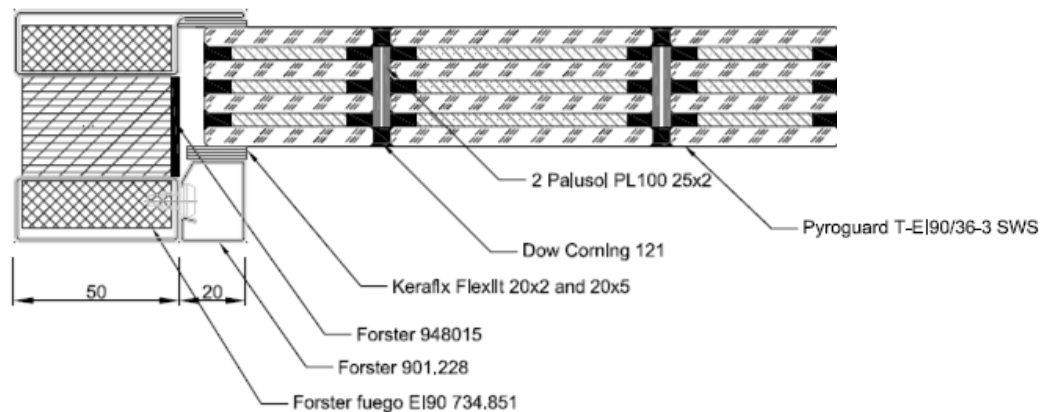
6.1.1.2 Pyroguard T-EI90/36-3 SWS



6.1.2 20/22143-560-1 CR

6.1.2.1 Pyroguard T-EI90/36-3 SWS

- For EI90 applications
- Forster Fuego Light EI90
- Glazing beads: 20 x 2 mm and 20 x 5 mm (7 mm in total thickness) Kerafix Flexlit capped with Kerafix silicone
- Frame lined with Forster liner ref. 2-948002
- Glass joint: (2x) 25 x 2 mm Palusol PL100 capped with Dow Corning 1-2-1 silicone sealant

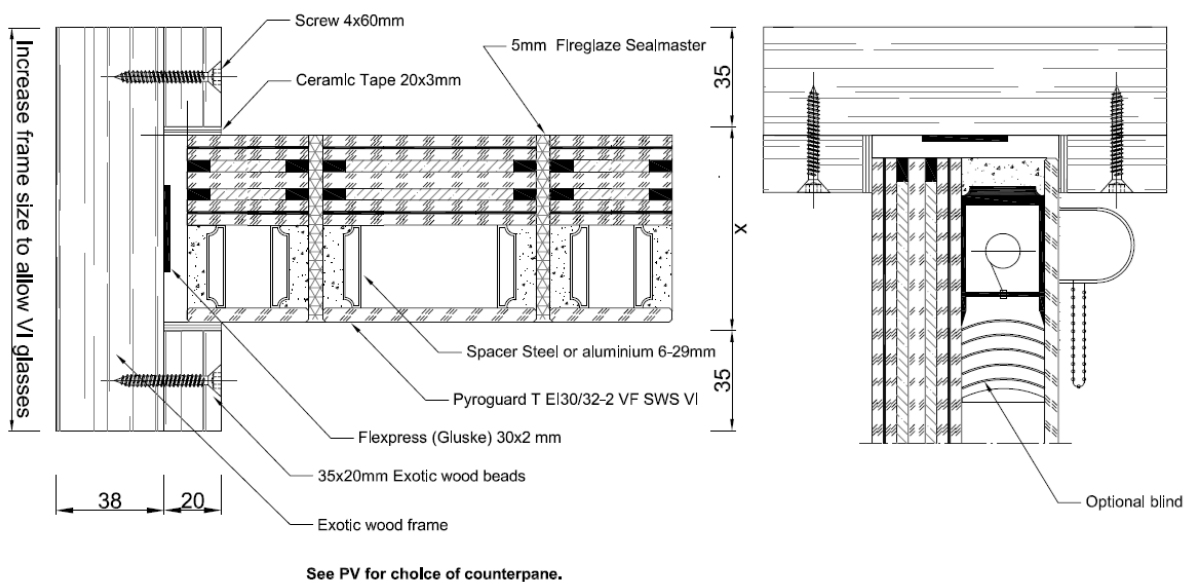


7 Timber – EW30

7.1 13-A-426 PV ext. 15/1 and CF5204

7.1.1 Pyroguard T-EI30/32-2 VF SWS VI

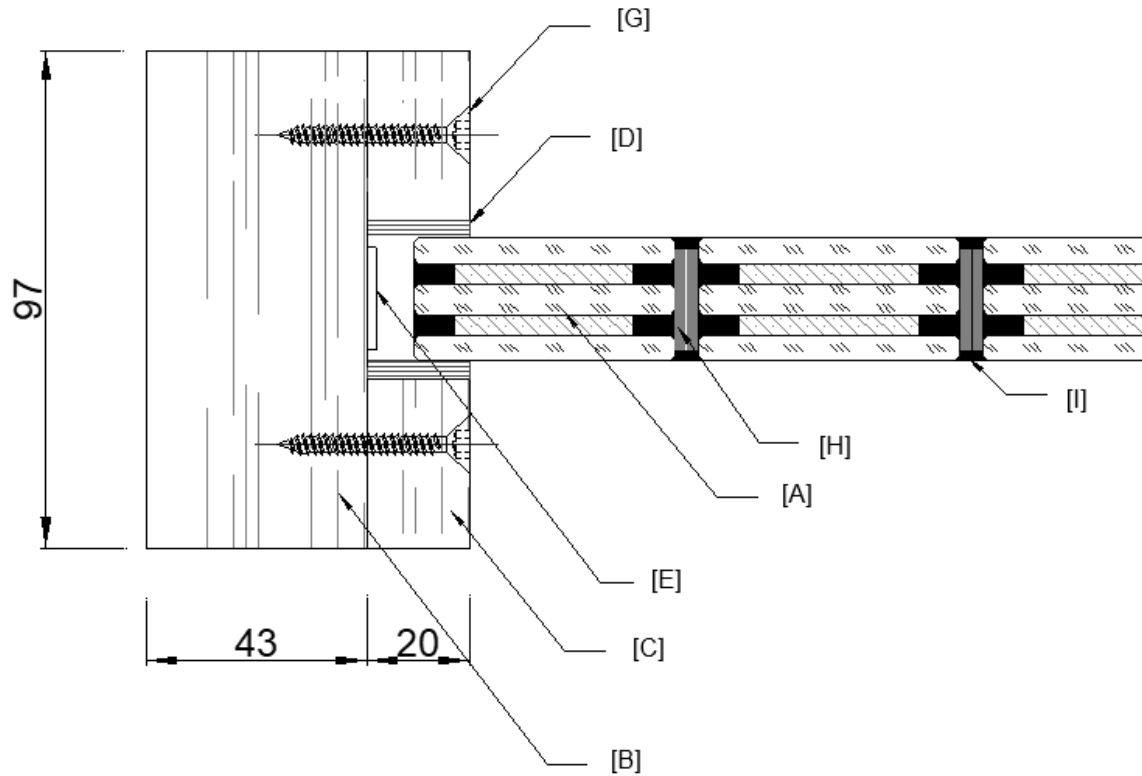
- For EW30 applications
- Hardwood – Sapele (680 kg/m³) framing sections
- Glazing beads: 20 x 3 mm Kerafix 2000
- Liner: 30 x 2 mm Flexpress intumescent strip
- Glass joint: 5 mm Sealmaster Fireglaze
- Note: Counterpane on non-fire threat side only



8 Timber – EI30

8.1 CF5204

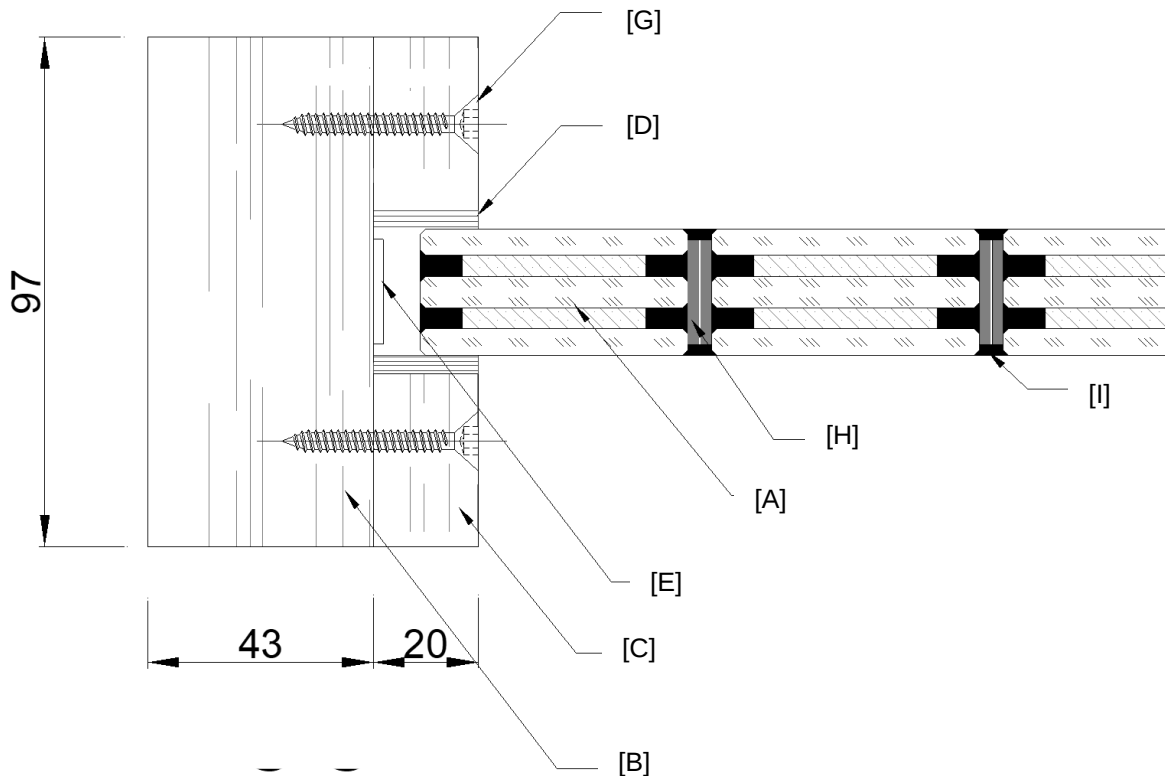
8.1.1 Pyroguard T-EI30/24-2 SWS



- [A] Pyroguard T-EI30/24-2 SWS
- [B] Section: Softwood frame with a density of 573 kg/m³ and 97 mm x 43 mm
- [C] Beads: Softwood beads 20 mm high by 33 mm wide minimum
- [D] Glazing media: Kerafix 2000 mineral fibre 20 mm x 3 mm
- [E] Liner: Kerafix Flexpan 200 20 mm x 2 mm
- [F] Setting blocks: Hardwood setting blocks 15 mm x 24 mm x 6 mm
- [G] Fixings: Pins 1 mm x 50 mm every 200 mm or screws
- [H] Glass-glass joint intumescent: Two layers of 20 x 2 Palusol
- [I] Glass-glass joint silicone Dowsil 895

8.2 C2058 Peutz (NL assessment)

8.2.1.1 Pyroguard T-EI30/24-2 SWS

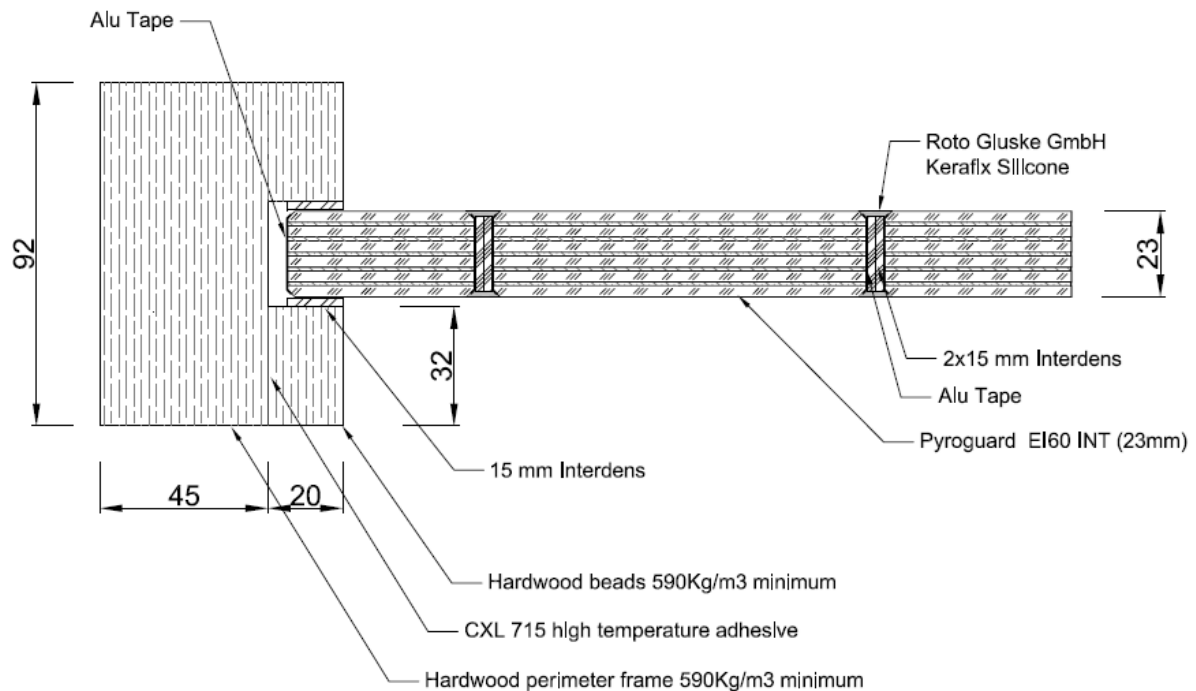


- [A] Pyroguard T-EI30/24-2 SWS
- [B] Section: softwood $\geq 37 \times \geq 70$ mm, ≥ 350 kg/m³
- [C] Beads: softwood $\geq 20 \times \geq 30$ mm, ≥ 450 kg/m³
- [D] Glazing media: Kerafix Flexpress 10 x 2 mm, Kerafix 2000, Gluske Fiberfrax or Odice Superwool ceramic tape 20 x 2-3 mm with optional wet seal Gluske Kerafix, Dowsil 895 or equivalent
- [E] Liner: not required
- [F] Setting blocks (not shown): Hardwood, Promatect or Supalux
- [G] Fixings: Fixings: pins 1 x 50 mm or screws 4 x 40 mm long at 40° to glass, at 200 mm centres, 50 mm from corners
- [H] Glass-glass joint intumescent: Two layers of 20 x 2 Palusol
- [I] Glass-glass joint silicone: Dowsil 895

8.3 CF437

8.3.1 Pyroguard EI60 INT

- For EI30 applications
- Hardwood (590 kg/m³) framing sections
- Glazing beads: 15 x 2 mm Interdens glazing strip
- Perimeter of the glass to be capped to frame using CXL 715 (or alternative) ceramic sealant
- Bead to have CXL 715 ceramic sealant applied between the glass and glazing tape before fixing
- Glass joint: (2x) 15 x 2 mm Interdens glazing strip capped with Kerafix (Kuhn) fire retardant silicone sealant



8.4 Z-19.14-2640

8.4.1 T-EI30/24-2 SWS, T-EI30/24-2 SWS VF, T-EI30/32-2 SWS and T-EI30/32-2 SWS VF

IFT and DIBT were asked to approve the use of Pyroguard Infinity products for use in Germany. For installations in timber they approved the following dimensions:

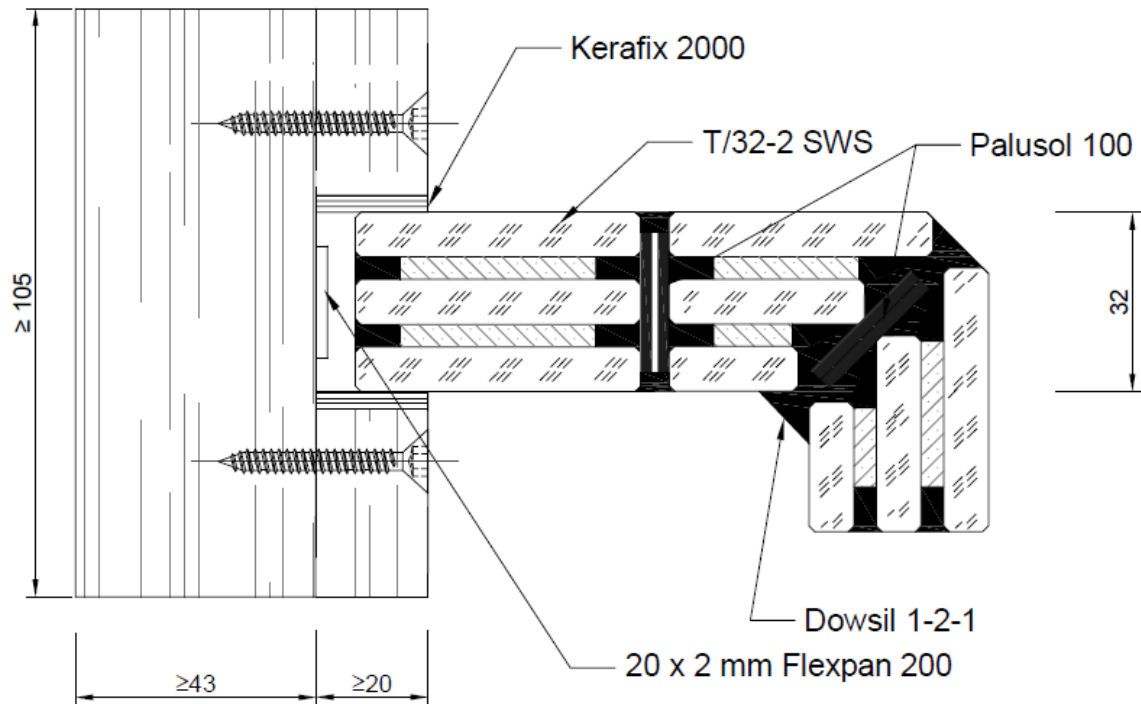
"Pyroguard T-EI30/24-2" SWS 1300 x 2898

"Pyroguard T-EI30/32-2" SWS 1500 x 3270

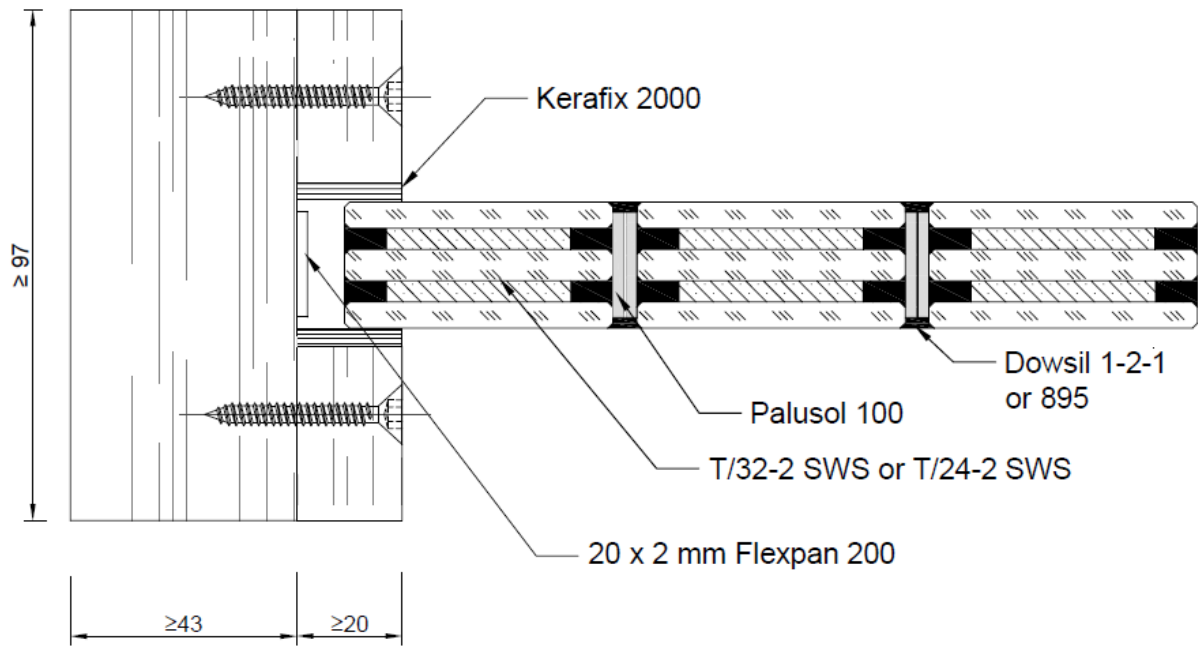
"Pyroguard T-EI30/24-2" VF SWS 1300 x 2898

"Pyroguard T-EI30/32-2" VF SWS 1500 x 3270

- 90° angles allowed for 32-2 SWS and 32-2 VF SWS
- Timber frame : softwood $\geq 573 \text{ kg/m}^3$
 - 105 x 43 mm min for 32-2 SWS
 - 97 x 43 mm min for 24-2 SWS
- Beads : softwood $\geq 573 \text{ kg/m}^3$, 33 x 20 mm min + $\geq 20 \times 2 \text{ mm}$ Kerafix 2000 ceramic tape capped with Gluske Kerafix silicone sealant (optional)



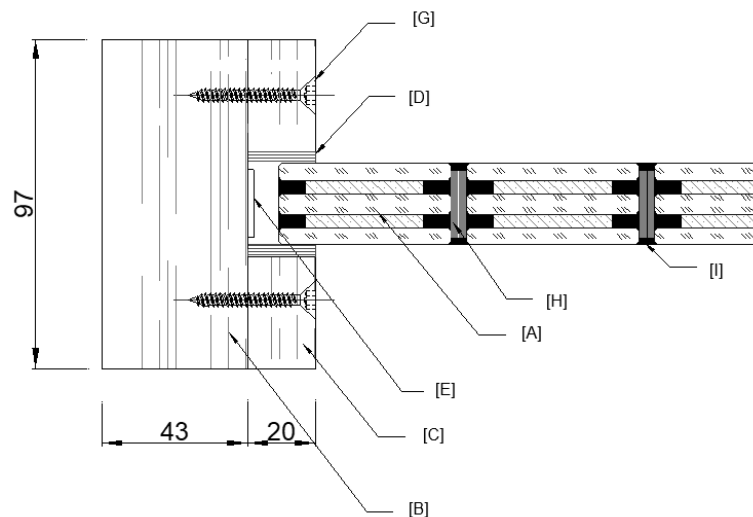
- Internal frame lined with 20 x 2mm Flexpan 200 (Kuhn) intumescent strip
- Glass joint:
 - 24-2 SWS (+VF): one 20 x 2 mm Palusol 100 (Odice) on each edge + Dow Corning 1-2-1 or Dow Corning Dowsil 895
 - 32-2 SWS (+VF): one 25 x 2 mm Palusol 100 (Odice) on each edge + Dow Corning 1-2-1 or Dow Corning Dowsil 895 (895 not allowed for 90° angles)



9 Timber – EW60

9.1 CF5204

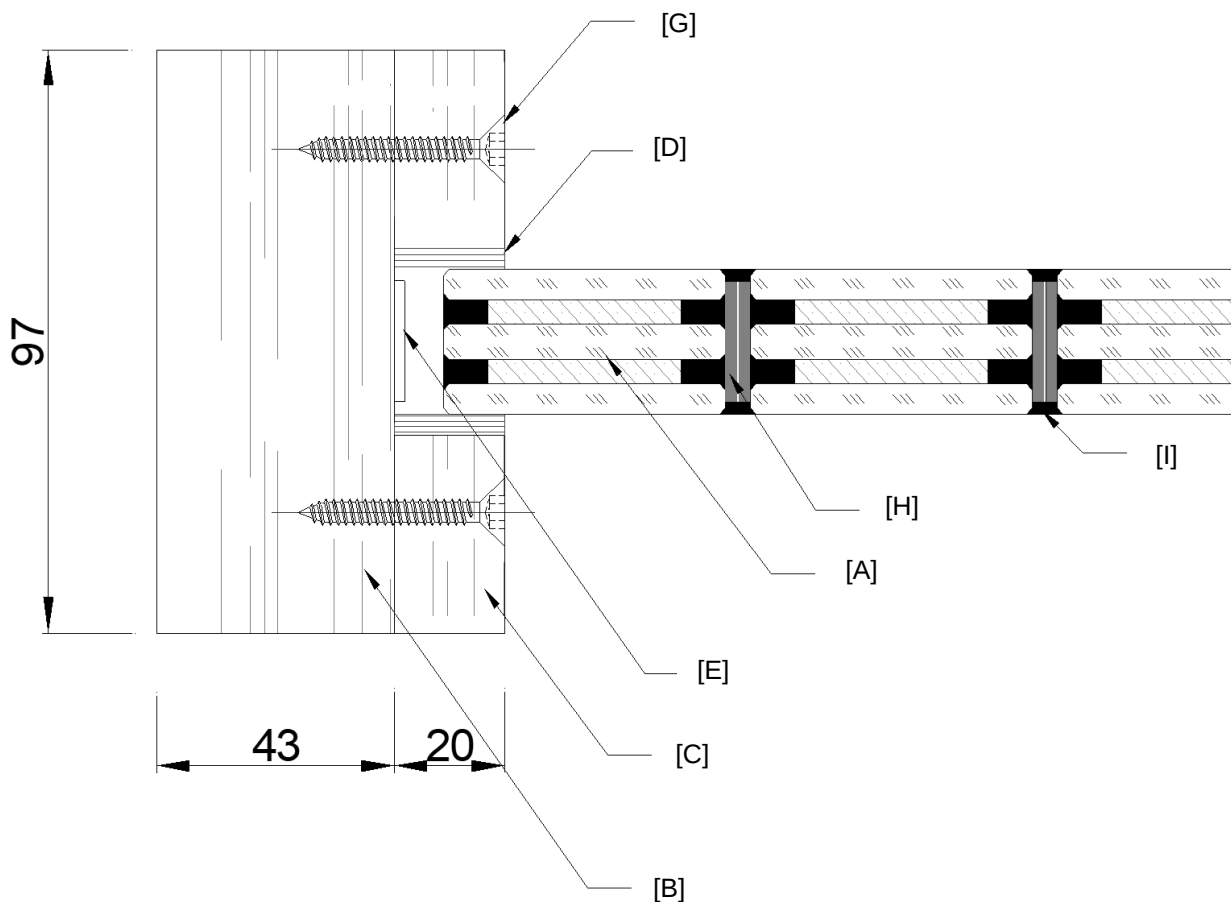
9.1.1 Pyroguard T-EI30/24-2 SWS



- [A] Pyroguard T-EI30/24-2 SWS
- [B] Section: Softwood frame with a density of 573 kg/m³ and 97x43 mm
- [C] Beads: Softwood beads 20 mm high by 33 mm wide minimum
- [D] Glazing media: Kerafix 2000 mineral fibre 20 mm x 3 mm
- [E] Liner: Kerafix Flexpan 200 20 mm x 2 mm
- [F] Setting blocks: Hardwood setting blocks 15 mm x 24 mm x 6 mm
- [G] Fixings: Pins 1 mm x 50 mm every 200 mm or screws
- [H] Glass-glass joint intumescent: Two layers of 20 x 2 Palusol
- [I] Glass-glass joint silicone Dowsil 895

9.1.2 C2058 Peutz (NL assessment)

9.1.3 Pyroguard T-EI30/24-2 SWS



[A] Pyroguard T-EI30/24-2 SWS

[B] Section: softwood $\geq 37 \times \geq 70$ mm, ≥ 350 kg/m³

[C] Beads: softwood $\geq 20 \times \geq 30$ mm, ≥ 450 kg/m³

[D] Glazing media: Kerafix Flexpress 10 x 2 mm, Kerafix 2000, Gluske Fiberfrax or Odice Superwool ceramic tape 20 x 2-3 mm with optional wet seal Gluske Kerafix, Dowsil 895 or equivalent

[E] Liner: optional

[F] Setting blocks (not shown): Hardwood, Promatect or Supalux

[G] Fixings: Fixings: pins 1 x 50 mm or screws 4 x 40 mm long at 40° to glass, at 200 mm centres, 50 mm from corners

[H] Glass-glass joint intumescent: Two layers of 20 x 2 Palusol

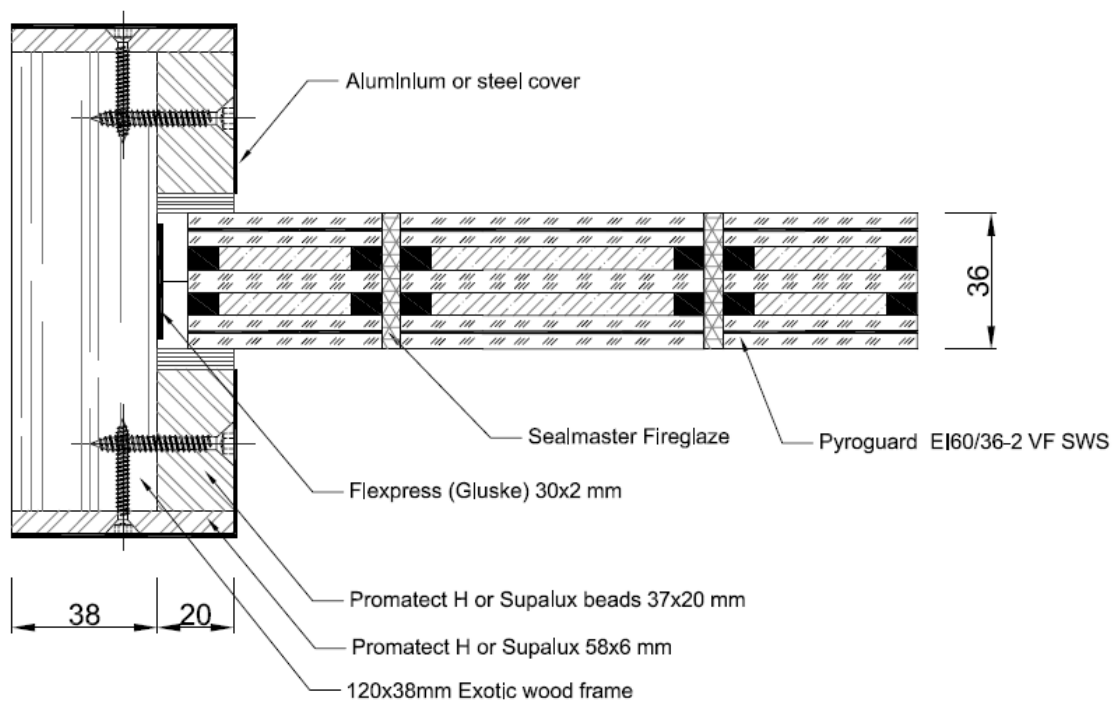
[I] Glass-glass joint silicone: Dowsil 895

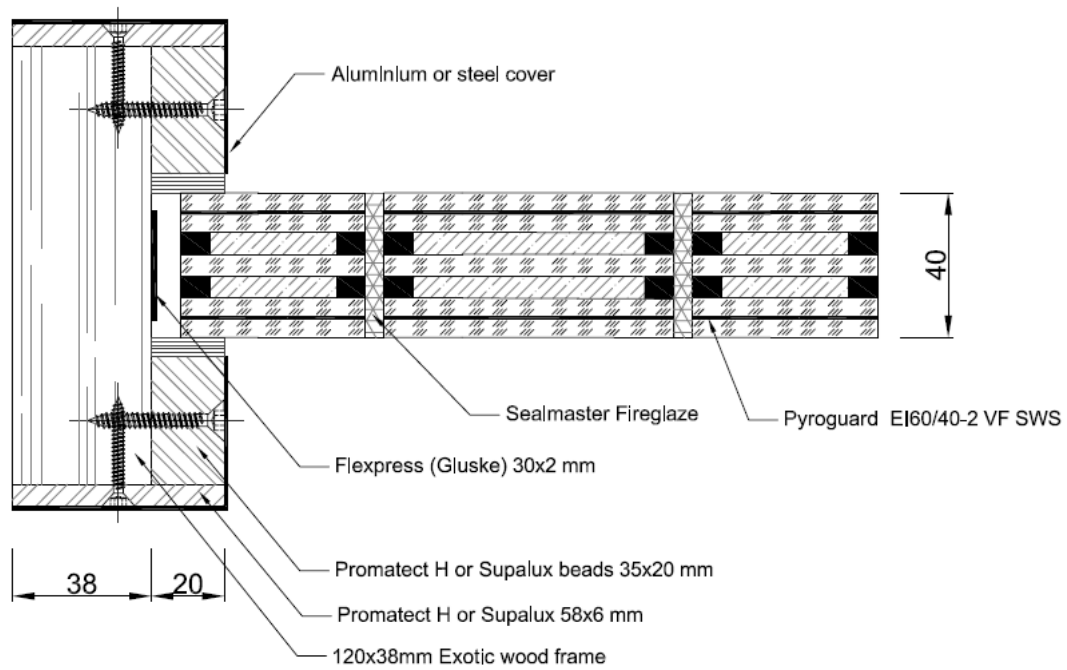
10 Timber – EI60

10.1 13-A-421 PV, 13-A-421 PV ext. 15/2 and CF5204

10.1.1 Pyroguard T-EI60/36-2 VF SWS and Pyroguard T-EI60/40-2 VF SWS

- For EI60 applications
- Hardwood (650 kg/m³) framing sections
- Glazing beads: 20 x 6 mm Kerafix tape
- Liner: 30 x 2 mm Flexpress IS
- Glass joint: 40 x 5 mm Sealmaster Fireglaze compound





11 Specification and ordering of corner SWS joints

11.1 Z, R, U or STD?

Of the construction types shown below in Figure 2 only std, and r, can be made. z and u are not easily produced or shipped to site because they have no flat long edge to stand on and should be avoided (see Figure 2).

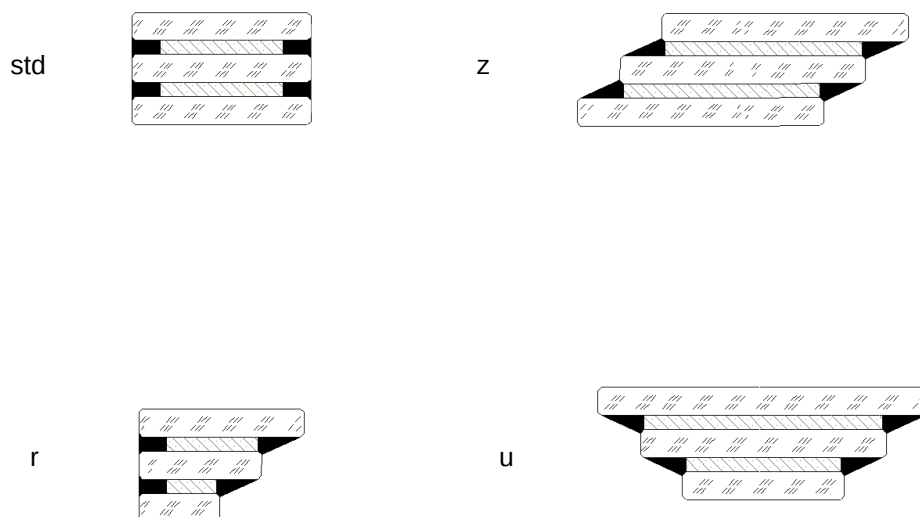


Figure 2 STS corner constructions

11.2 Handedness

Pyroguard SWS corner glasses are not symmetrical owing the requirement to glaze with a certain edge orientated down. This means that Pyroguard SWS are not symmetrical and cannot be flipped on site; they have a 'handedness'.

Therefore, to try to avoid errors in production, orders for corner butt-joint glasses will not be taken without installation drawings giving precise dimensions and 'handedness' of the r construction types.

These drawings must be signed off and agreed with the installer.

11.3 Dimensions

The dimensions in orders should reflect the total width of each piece, not the individual panes (see Figure 3).

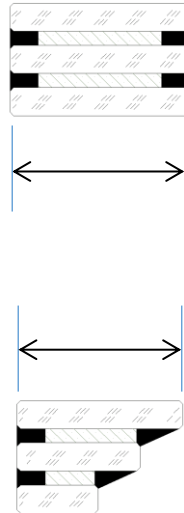


Figure 3 Dimensions

When calculating dimensions, please also consider the corner joint and the presence of the intumescent. Subtract 16 mm from the desired size (see Figure 4).

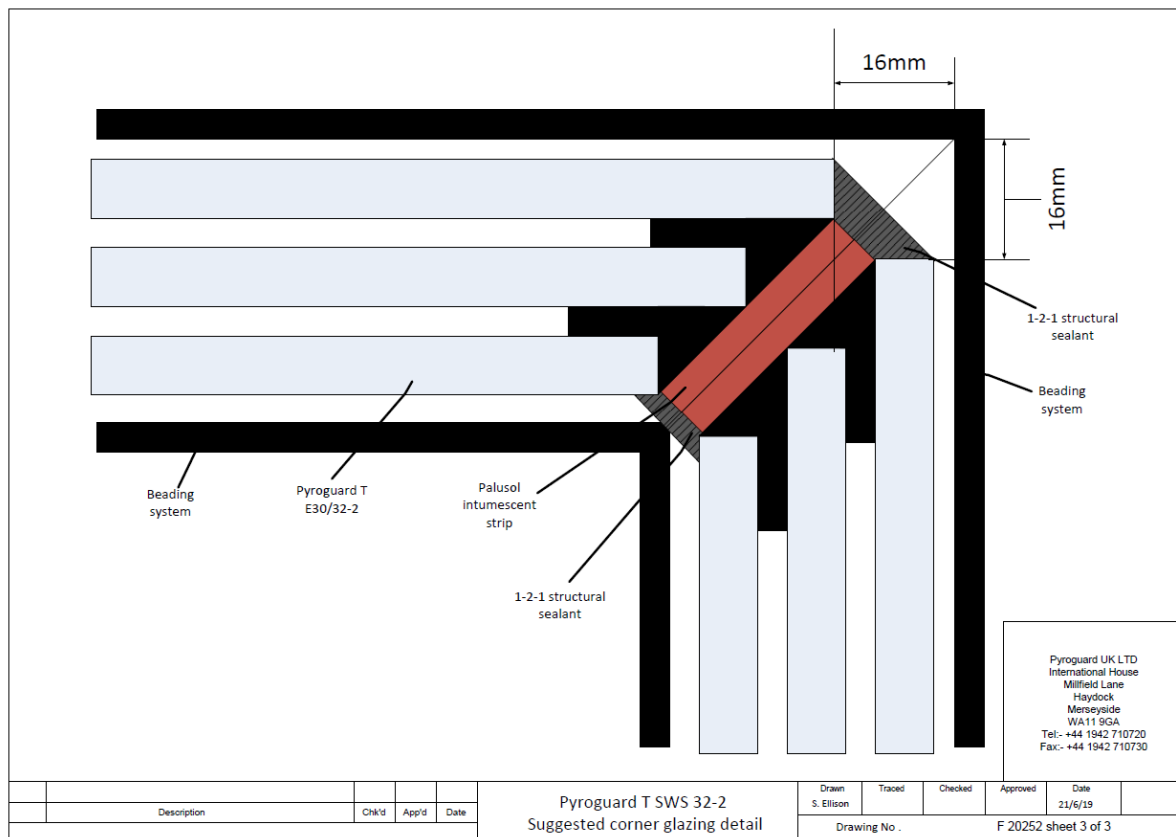


Figure 4 Technical drawing of 90° SWS corner joint detail illustrating subtract 16 mm rule

12 Installation

This installation guide provides instructions that will assist Pyroguard Infinity installers to construct a structural wall for all fire resistance classifications claimed. The installer must verify the application conditions for the building in advance. The assembly of Pyroguard Infinity glazing shall only be performed by suitably trained specialist staff. This document does not fully constitute a training document.

In the building exterior envelope or in an atria, which are both subject to the influences of sun, wind and weather, the function of the joints and glazing may vary from that under normal interior conditions. Seek technical approval from the sealant supplier and Pyroguard UK Ltd before planning such an installation.

Furthermore, the function in case of fire cannot be insured if the installation deviates from that described in this document. Only the recommended types of sealants, which have been fire tested in conjunction with the glazing and materials, are approved to be used for application with Pyroguard Infinity. Unfortunately, in the event of defects, the warranty shall be void with the use of other silicones, solvents, intumescent or other materials, or the disregard of generally recognised technical guidelines, or failure to follow these instructions. Additionally, Pyroguard do not warrant the installation or the structural safety of the installation, only the glass itself according to product standard EN14449.

The recommendations for application of sealant are given, these are to be followed by the installer.

Pyroguard Infinity panes are often of considerable weight and of large dimensions and must therefore be handled according to industry guidelines (refer to the Glass and Glazing Federation for details), to ensure they are installed without any damage and within regional safety at work guidelines

12.1 T-gel instructions

1. Thoroughly clean all glass edges to be sealed. Remove any excess edge sealant with a blade and 0000 steel wool. Clean glass edges with white spirit.
2. Stick intumescent tape on both vertical edges according to the approval, making sure that it is centred. Install the glass panels and adjust into a parallel position. The glass panels can be adjusted into parallel position using slight and constant pressure in the direction of the glass surfaces.

3. Apply the approved sealant into the joint (do not use other sealants). Remove any excess sealant and smooth as necessary. Try not to contaminate the surface of the glass, as this can be difficult to remove. Use the two-cloth cleaning method to clean the glass surface (see section 12.4).

An adhesive sticker placed on the glass indicates that this corner must be glazed this side down. For warranty reasons, it is imperative to follow this instruction.

- Glaze the Pyroguard glass with the stamp installed at the bottom edge (see example sticker in Figure 5).

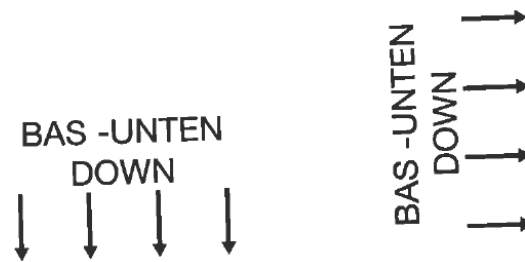


Figure 5 Label indicating orientation of glazing; this corner down.

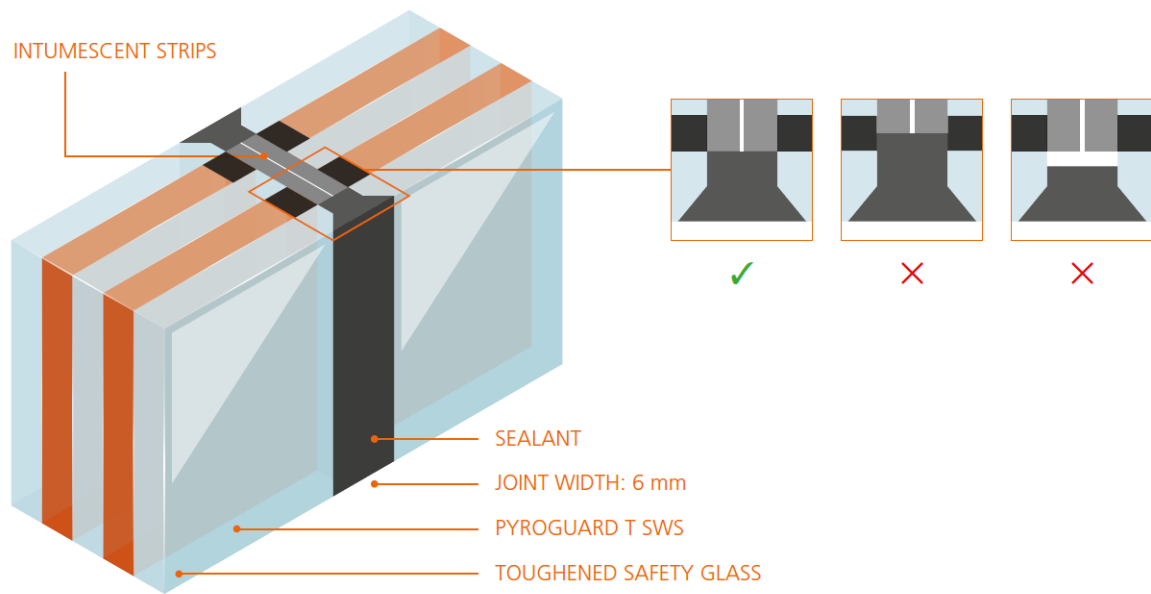


Figure 6 Installation of Pyroguard T SWS

12.2 Installation Pyroguard EI instructions

Approved Materials

- Interdens glazing tape from Lorient
- Fire resistant silicone sealant Kerafix (Kuhn)
- Pyroguard aluminium edge tape

Instructions

1. Ensure aluminium glazing tape is intact at glass edge
2. Apply Interdens glazing tape to both vertical glass edges (on top of aluminium glazing tape) making sure that it is centred.
3. Bring glass together, position using slight and constant pressure in the direction of the glass surfaces so that there is no airspace between Interden layers
4. Apply Kerafix silicone sealant (Kuhn) into the joint. This sealant is available in clear, black, and grey. Remove any excess sealant and smooth as necessary.

5. Immediately remove any excess silicone sealant from glass surface using the two-cloth cleaning method (see section 12.4).

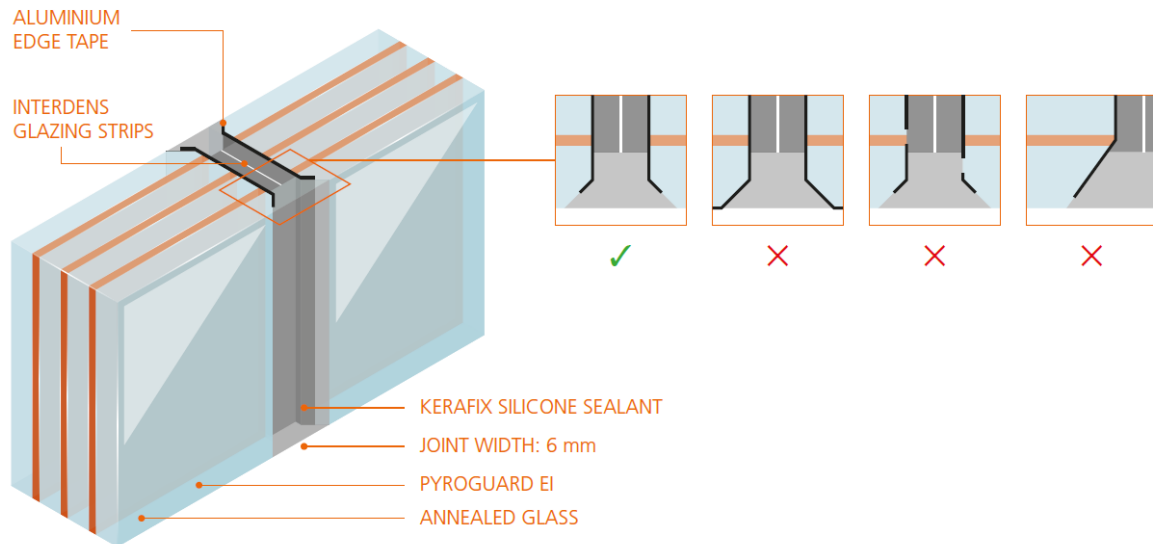


Figure 7 Installation of Pyroguard EI SWS

Notes

Note 1: Applicable butt-joint systems and corresponding Interdens glazing strip:

- EI30INT – 15 mm
- 2 mm x 10 mm Interdens EI30 EXT - 19 mm
- 2 mm x 15 mm Interdens EI60 INT - 23 mm
- 2 mm x 20 mm Interdens EI60 EXT - 27 mm
- 2 mm x 20 mm Interdens

Note 2: Ensure the aluminium tape is not damaged or become unadhered

Note 3: Use only the approved Kerafix silicone sealant (Kuhn) in the joint

Note 4: Aluminium tape should not be visible once the joint is complete

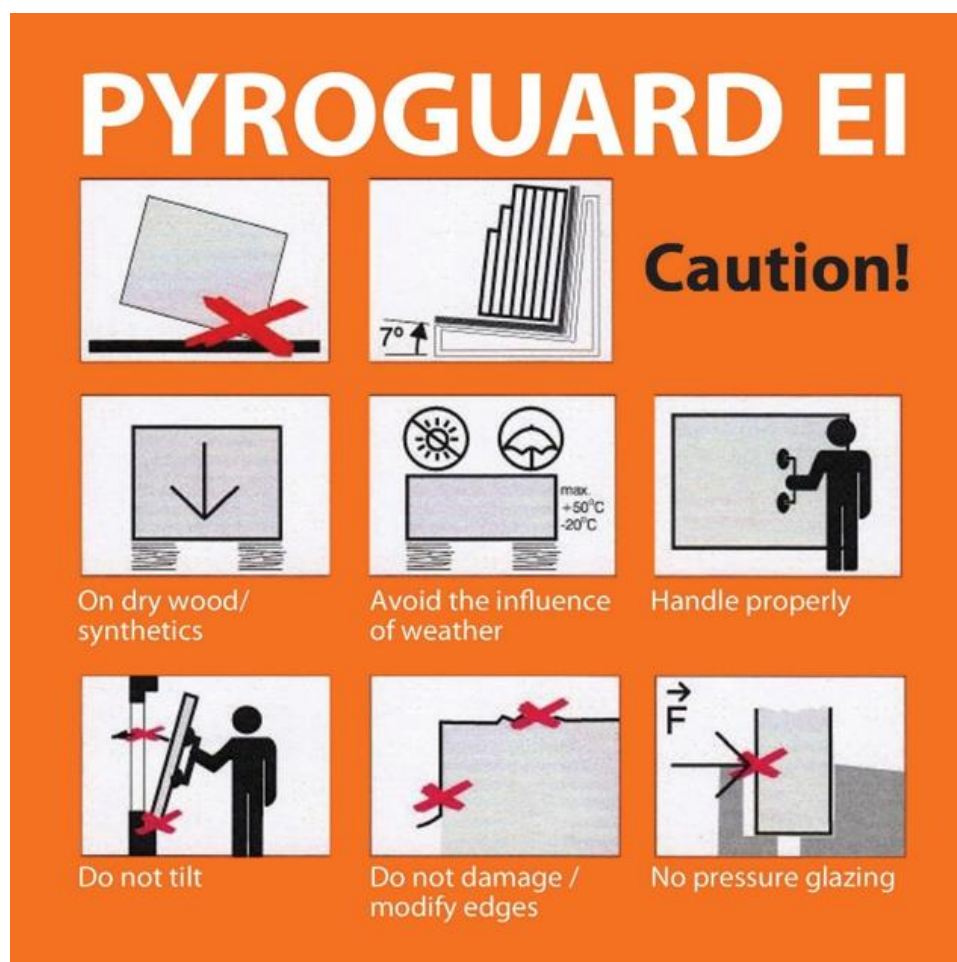
12.2.1 Handling instructions

Glass panels must be carefully handled using suitable glass handling and/or vacuum-lifting equipment.

Glazing installation must be performed in strict accordance to the installation instructions. Any change in materials or dimensions will result in loss of warranty.

The aluminium tape **is not to be removed or damaged** prior to installation. If it is damaged during installation it should be removed and replaced.

An example of our handling instruction sticker applied to Pyroguard EI prior to dispatch can be found below.



Please ensure these guidelines are adhered to during handling and installation.

12.2.2 Recommendations when taping the edges

Tape must always be applied to Pyroguard EI to avoid water damage in transport and in normal use of the product. Only Pyroguard recommended aluminium tape (Vitominium PET) should be used to tape the edges of the cut sized glass.

All edges must be thoroughly cleaned and dried before any taping takes place to ensure good adhesion of the tape.

Fold and apply the aluminium tape carefully onto the glass. The aluminium tape should be applied evenly along each edge of the glass and pressed smooth, sealing all open creases. The corners of the tape should be 'nibbed' with a blade to allow a neat fold at the corners. If the glass is to be used for an IGU, cut the aluminium tape back on one side up to approximately 3 mm overlap. Note: CNC milling type machines are not recommended for cutting Pyroguard EI products.



12.3 Choosing sealants

The sealants listed in these documents cannot be substituted for near equivalents unless a specific choice of sealants has been approved. In this case, choose the sealant most suitable to the installation site.

12.3.1 Dow Corning® 121 Structural Glazing Sealant

Dow Corning® 121 Structural Glazing Sealant is a two-part, fast-cure, neutral-curing silicone sealant intended for structural bonding without the need of a two-part pump. It is ideal for repairs and/or replacement of structurally glazed glass and other substrates, for on-site structural glazing and in-shop structural glazing where the use of a two-part pump is not viable. It is supplied in dual-cartridge kits and it is available in black and grey.

12.3.2 Dow Corning 895 High Quality Structural Glazing Sealant

One component silicone sealant for structural glazing. Designed specifically for the structural bonding of glass, metal, and other building components. Meets the newly developed European standards for structural glazing application, as developed by EOTA. Excellent adhesion. Odourless and non-corrosive cure system. One-component product resistant to ozone and temperature extremes. It is supplied in a single cartridge, and it is available in black, white and grey.

12.3.3 Sealmaster Fireglaze Compound

Fireglaze compound has independent fire tests and third-party certification evidence for a wide range of fire resisting glasses opening sizes. It is particularly suitable for curved apertures. This product is black and is supplied in a single cartridge.

12.3.4 Kerafix® Fire Rated Silicone

Kerafix® Fire-rated silicone is a flame-retardant, neutral curing single component sealant for indoor and outdoor use. The material is weather resistant, elastic and has excellent adhesion properties. It is supplied in a single cartridge, and it is available in black, white and grey.

12.4 Two cloth cleaning method (ref 'Dow Corning Americas Technical Manual')

“Two-Cloth” Cleaning Method. Clean, soft, absorbent, lint-free cloths, along with the appropriate choice of solvent, must be used to remove excess sealant from the substrate surface. The “two-cloth” cleaning method consists of a solvent wipe followed by a dry cloth wipe to lift and remove the solvent and contaminants suspended in the solvent. Multiple cleanings may be required to properly clean a substrate.

1. Pour or dispense an acceptable cleaning-grade solvent onto the cloth. A plastic (solvent-resistant) squeeze bottle works best for organic cleaning solvents. Do not dip the cloth into the container of solvent, as this will contaminate the cleaning agent.
2. Wipe vigorously to remove contaminants. Check the cloth to see if it has picked up contaminants. Rotate the cloth to a clean area and re-wipe until no additional dirt is picked up.
3. Immediately wipe the cleaned area with a separate clean, dry cloth before the solvent has evaporated. This technique will allow dirt and contaminants suspended in the solvent to be lifted and removed with the second dry cloth. Multiple cleanings may be required to adequately clean a substrate. Organic solvent must be removed with the dry cloth before the solvent evaporates or the cleaning will be less effective. Some surfaces or weather conditions will allow a small amount of residual organic solvent to remain. If this is the case, the surface must be allowed to dry before continuing with the sealant installation.

13 Disclaimer

The configurations mentioned in these documents shows materials/products that Pyroguard UK Ltd has successfully used in its own fire tests. Nevertheless, Pyroguard UK Ltd does not guarantee durability, tightness, fitness, or quality of the joint when using the shown materials/products. Pyroguard UK Ltd highly recommends that customers carry out their own tests to verify the durability, tightness, fitness, or quality of the joint.

Pyroguard's Technical brochure summarises the approved glazing, glazing dimensions and approved framing system/glazing assembly. All dimensions are given in millimetres (mm) unless otherwise stated. All glass dimensions are given width first and height second. All glass sizes are maximum allowable dimensions and either/both dimensions may be reduced but not increased. Where a 'max area' is shown the glass size may be taken to the maximum dimension in either width or height as long as the size used for the second dimension does not take it above the maximum area allowed. Where no maximum area is shown then both dimensions may be taken to the maximum allowed.

To fully comply with the approval, the original document referenced should be studied. All components of the glazing assemblies installed must be as described in the original test reports, classification reports, national approvals, global assessments, or other certification. If there is an option given in the assembly drawing for any of the components used in the glazing assembly then only the options given can be used.

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Please contact your Pyroguard representative to receive the latest edition of the Technical brochure.

14 Warranty

Pyroguard UK Ltd. warrants that its products will be free of substantial obstruction of vision from dust or other foreign substances due to defective materials or workmanship for a period of ten years from the date of delivery. Full details of the limited 10-year warranty are available on request.

16 Appendix

16.1 Summary of PV

Bois			
	T-EI30/32-2 VF SWS	T-EI30/32-2 SWS	T-EI60/36-2 VF SWS
Dimensions	1830 x 2900 mm	1500 x 3270 mm	1830 x 2900 mm
Angle	En ligne	En ligne ou 90°	En ligne
Classement	EI30	EI30	EI60
PV	13-A-426	13-A-426 Ext4	13-A-421 Ext2
	13-A-426 Ext1		
	Attention au sens de feu		
Forster Fuego Light 30			
	T-EI60/24-2 SWS	T-EI30/32-2 SWS	T-EI30/36-2 VF SWS
Dimensions	1430 x 3592 mm (4,67 m²)	1800 x 3924 mm (5,94 m²)	2196 x 3480 mm (6,42m²)
Angle	En ligne	En ligne ou 90°	En ligne
Classement	EI30	EI30	EI30
PV	13A445 Ext2	EFER-19-V-000119 Ext1	13A445 Ext2
	13A445 Ext2		
Forster Fuego Light 60			
	T-EI60/32-2 SWS	T-EI60/36-3 SWS	T-EI60/40-2 VF SWS
Dimensions	1500 x 3270 mm	2160 x 3924 mm (7,12 m²)	2013 x 3190 mm (5,84 m²)
Angle	En ligne ou à 90°	En ligne	En ligne
Classement	EI60	EI60	EI60
PV	EFER-20-003405	EFER-19-001821	EFER-19-001821
Forster Fuego Light 90			
	T-EI90/36-3 SWS	T-EI90/49-3 SWS	RP Technik EI30
Dimensions	1800 x 3265 mm	1980 x 3591 mm (6,46 m²)	T-EI30/24-2 SWS
Angle	En ligne	En ligne	1300 x 3265 mm
Classement	EI90	EI90	En ligne
PV	EFER-19-004227	EFER-19-004227	EI30
	EFER-19-004227		EFER-19-004595
Jansen Janisol 2			
	T-EI30/32-2 SWS	T-EI30/32-2 SWS	T-EI60/40-2 VF SWS
Dimensions	1300 x 3265 mm	1500 x 3270 mm	2013 x 3190 mm (5,84 m²)
Angle	En ligne	En ligne ou 90°	En ligne
Classement	EI30	EI30	EI60
PV	EFER-19-004594	EFER-19-004594	13-A-421 Ext3
	EFER-19-004594		



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