Appendix F

Data Sheets for

Halspan® 60

60 Minute Fire resisting Doorsets

Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets – Reduced Intumescent

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2135	x	948
		To:	2303	x	915
	ULSASD & DASD	From:	2135	x	923
		To:	2253	x	915
Maximum Overpanel height (mm)		Transomed	2000		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8)		Material:	Hardwood		
		Min. Section (mm):	70 x 32		
		Min. Density(kg/m³):	640		

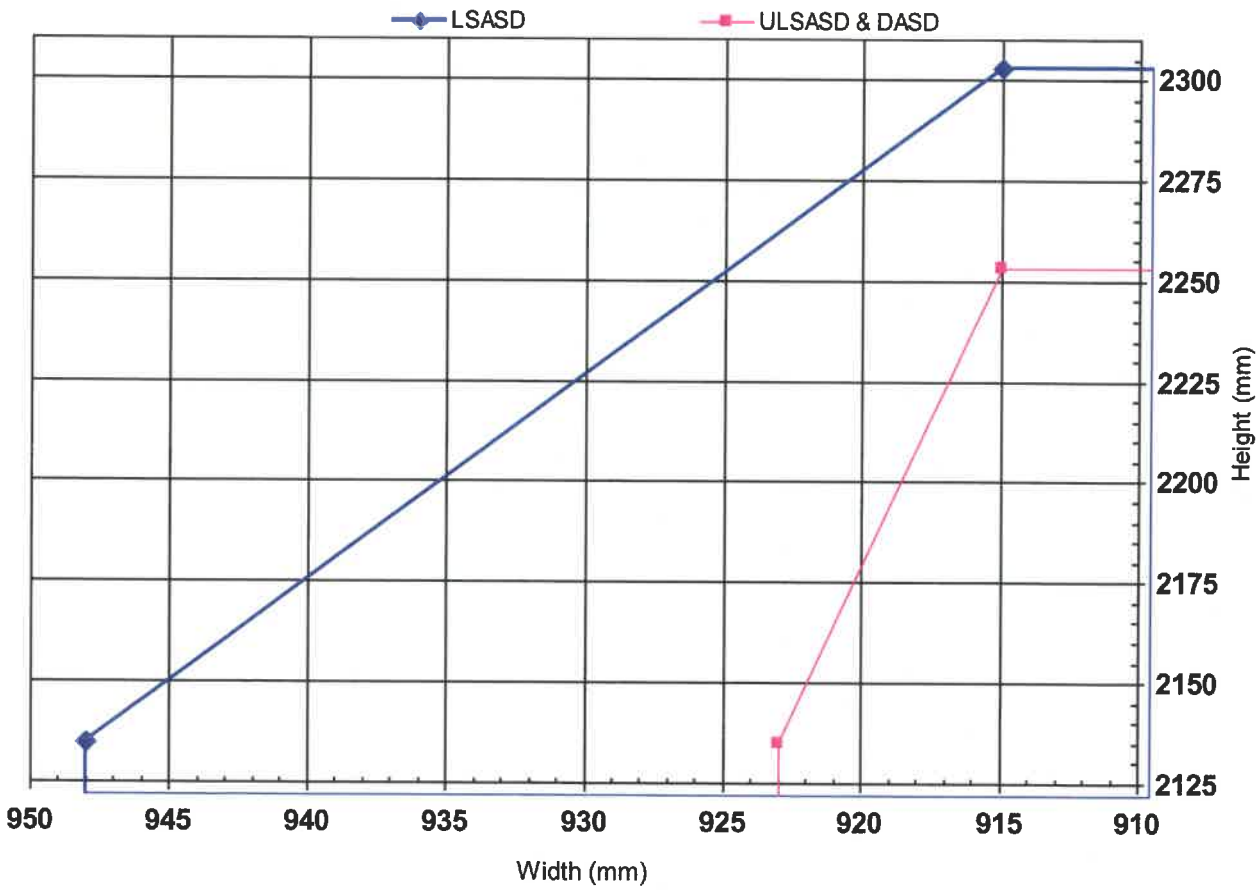
Intumescent Materials: PVC encapsulated Palusol 100 or Type 617

Head 1 No 20 x 4mm exposed and centrally fitted in the frame reveal.

Jambs: 1 No 20 x 4mm exposed and centrally fitted in the frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Double Doorsets – Reduced Intumescent

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2135	x	858
		To:	2203	x	826
	ULSADD & DADD	From:	2135	x	833
		To:	2153	x	826
Maximum Overpanel height (mm)			1500		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		
		Min. Section (mm):	70 x 32		
		Min. Density(kg/m³):	640		

Intumescent Materials: PVC Encapsulated Palusol 100 or Type 617

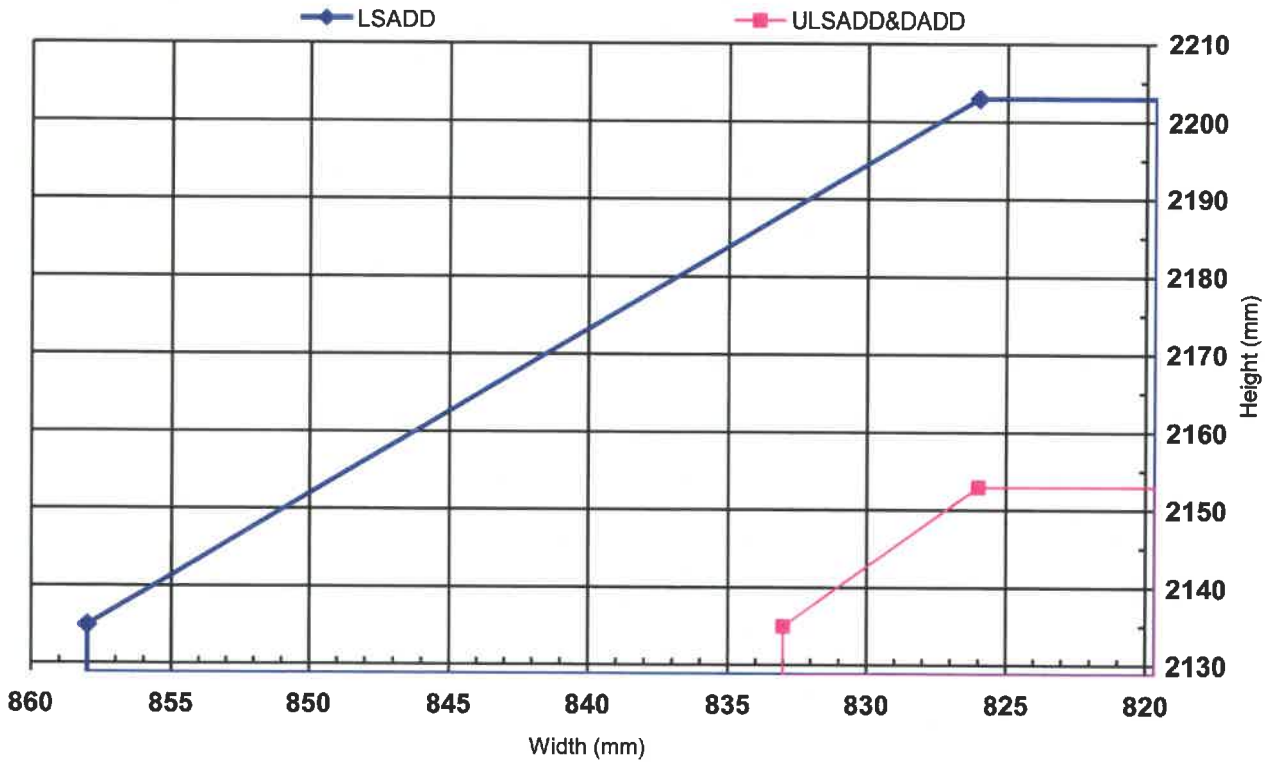
Head:
1No 25 x 4mm exposed and fitted centrally in the frame reveal.

Meeting Edges:
Square: 1No 25 x 4mm exposed and fitted centrally in one leaf edge only.
Rebated: 1No 15 x 4mm exposed and fitted centrally in the rebate of both leaf edges.

Jambs: 1No 25 x 4mm exposed and fitted centrally in the frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2300	x	1192
		To:	2486	x	1100
	ULSASD & DASD	From:	2300	x	1167
		To:	2436	x	1100
Maximum Overpanel height (mm)		Transomed	2000		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

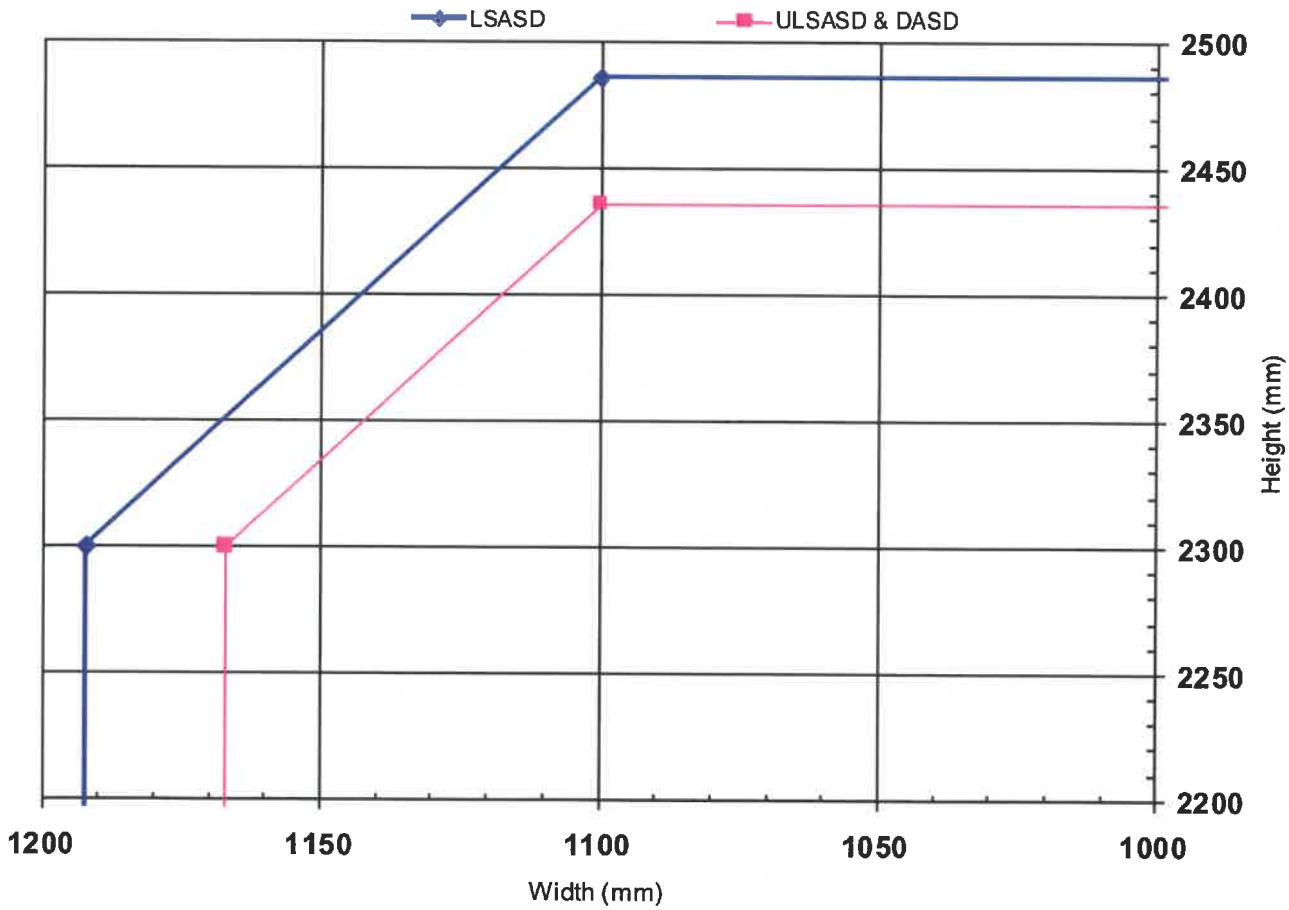
Intumescent Materials: PVC encapsulated 500P, Halspan® Type SLS

Head 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Jambs: 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2280	x	1072
		To:	2544	x	950
	ULSASD & DASD	From:	2280	x	1047
		To:	2494	x	950
Maximum Overpanel height (mm)		Transomed	2000		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

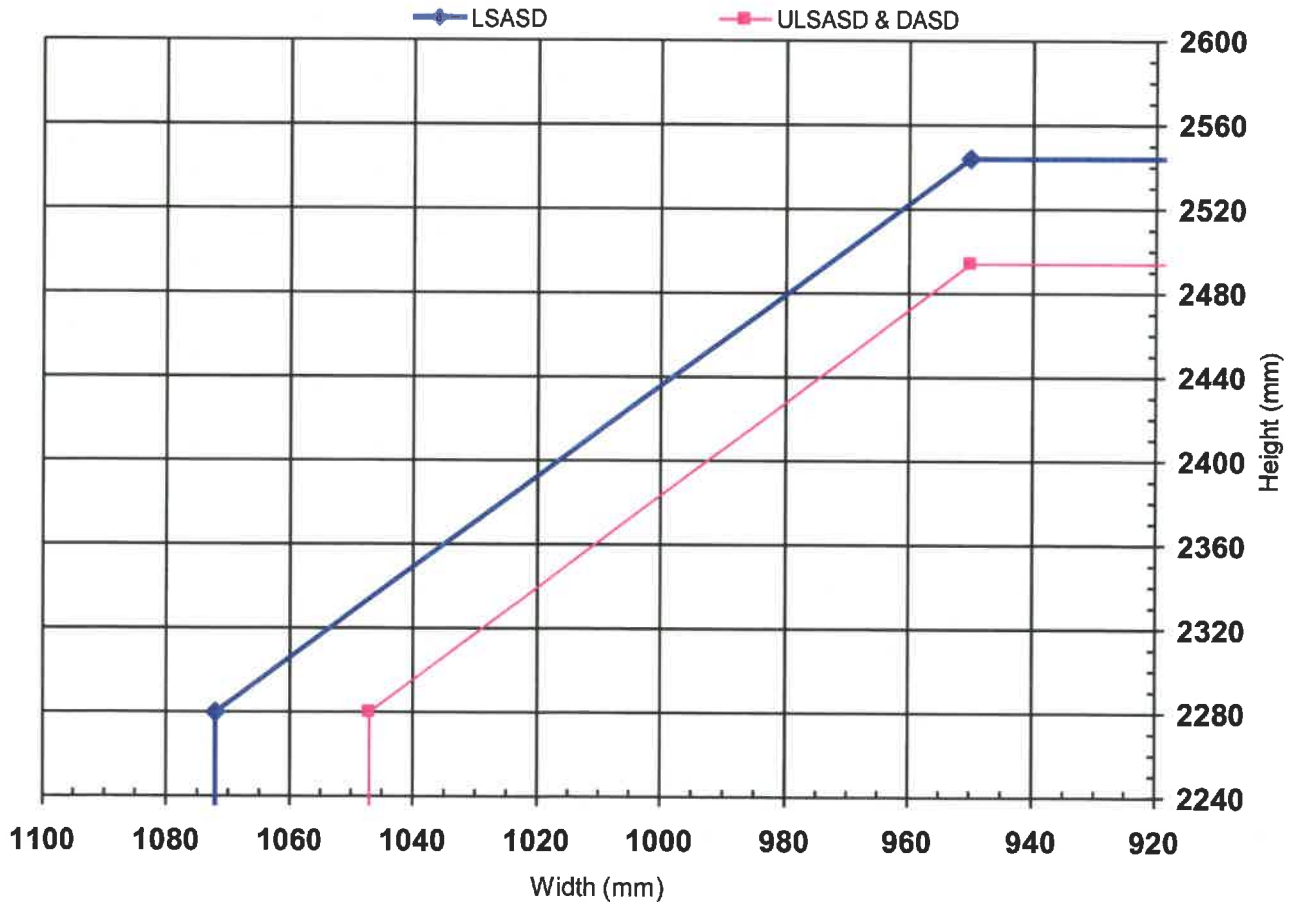
Intumescent Materials: PVC encapsulated Sealed Tight Solutions STS 154FO and STS 154FS or STS 154FL

Head 2 No. STS 154FO 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Jambs: 2 No. STS 154FO 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2130	x	1227
		To:	2799	x	915
	ULSASD & DASD	From:	2130	x	1202
		To:	2749	x	915
Maximum Overpanel height (mm)		Transomed	2000		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

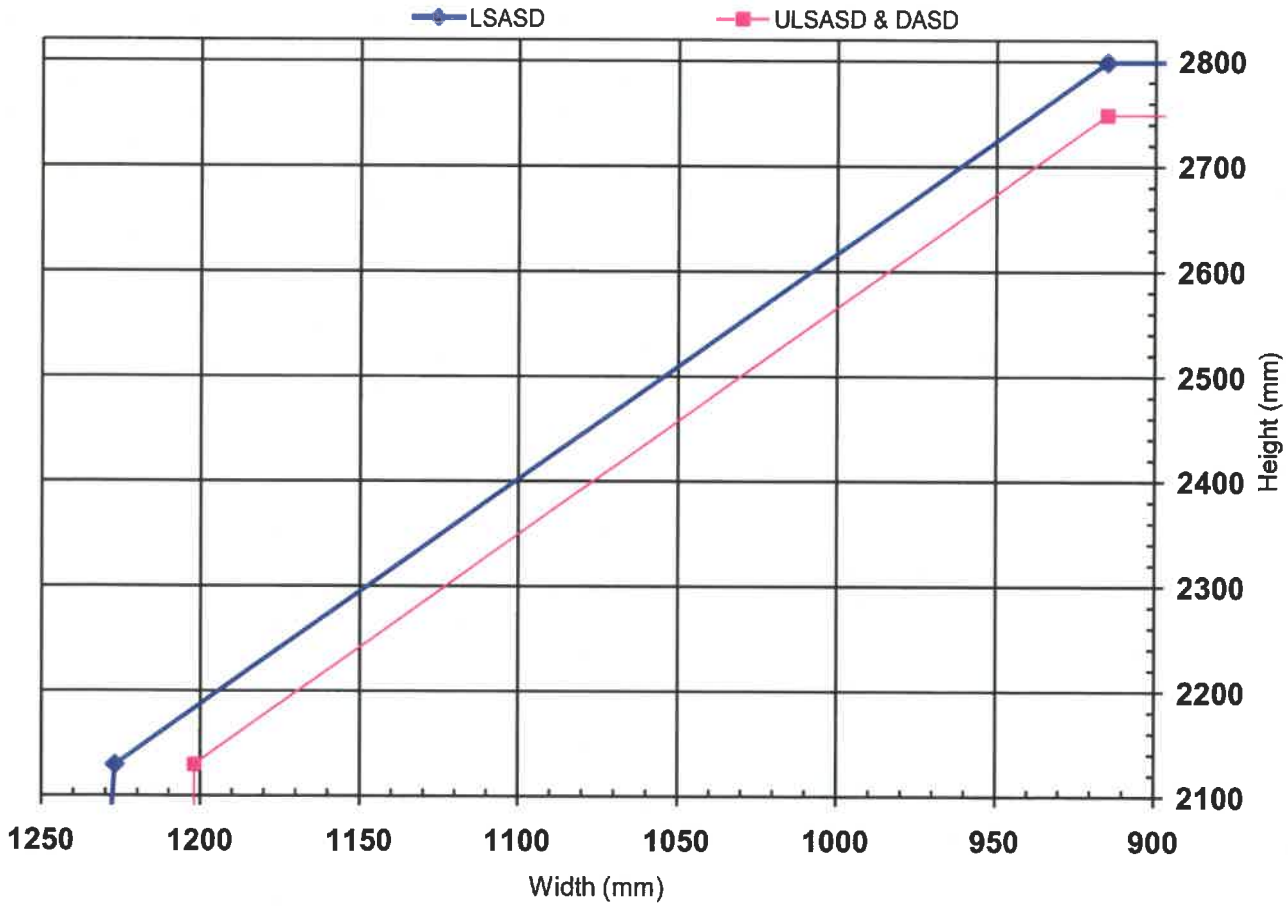
Intumescent Materials: PVC encapsulated Palusol 100, Type 617, Pyroplex, 500P or Halspan® Type SLS

Head 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Jambs: 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets – extended width

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2441	x	1384
		To:	2735	x	1236
	ULSASD & DASD	From:	2441	x	1359
		To:	2685	x	1236
Maximum Overpanel height (mm)		Transomed	2000		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

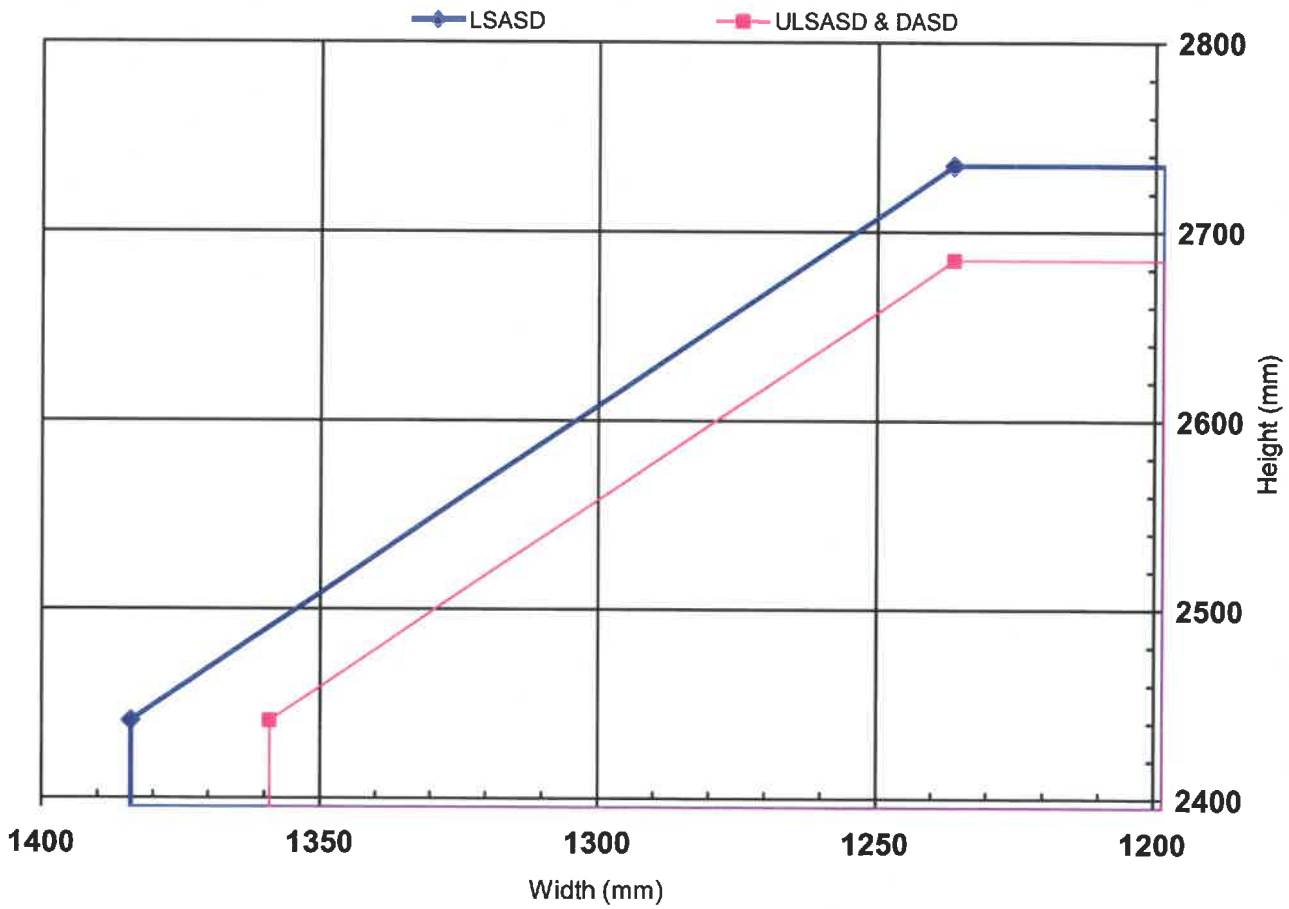
Intumescent Materials: PVC encapsulated Type 617

Head 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Jambs: 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets – extended width

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2441	x	1333
		To:	2633	x	1236
	ULSASD & DASD	From:	2441	x	1308
		To:	2583	x	1236
Maximum Overpanel height (mm)		Transomed	2000		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

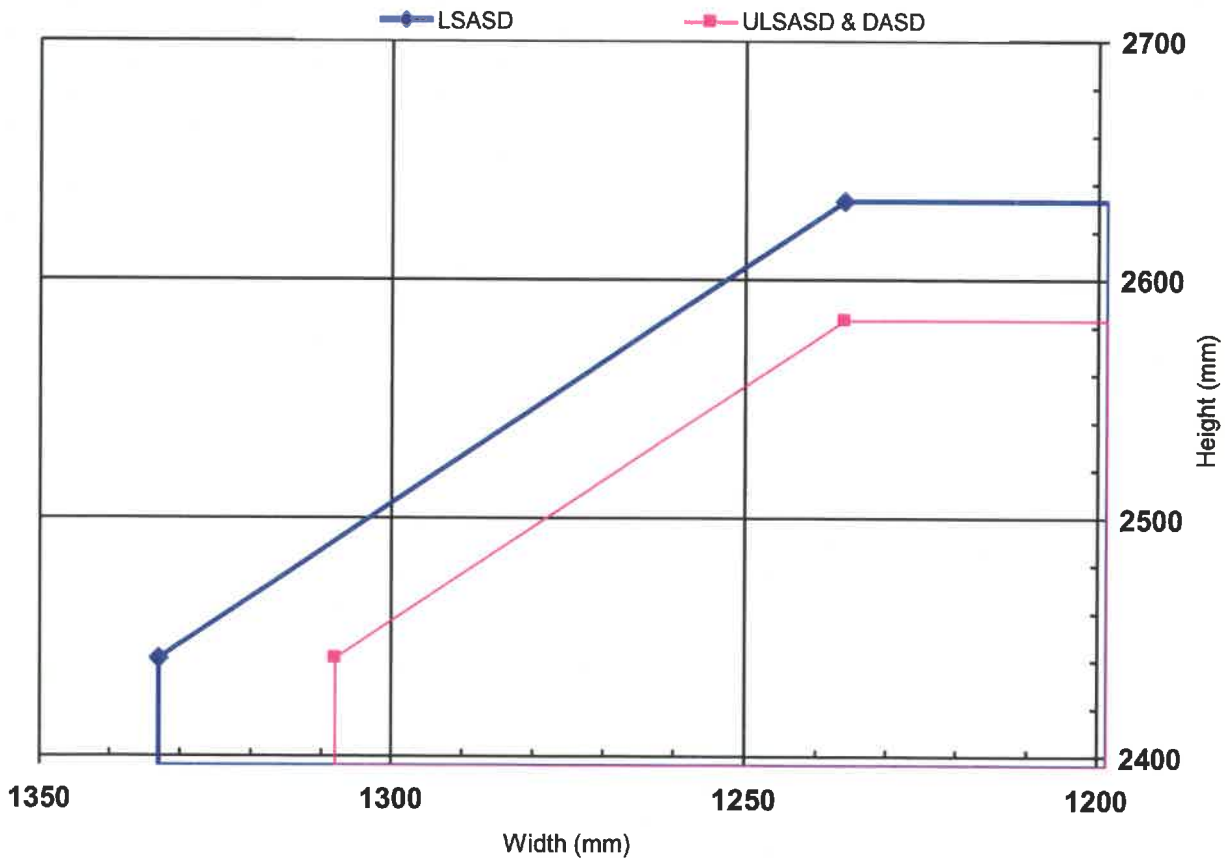
Intumescent Materials: PVC encapsulated Palusol 100

Head 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Jambs: 2 No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets – Extended Height

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2700	x	1000
		To:	3050	x	825
	ULSASD & DASD	From:	2700	x	975
		To:	3000	x	825
Maximum Overpanel height (mm)		Transomed	2000		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		
		Min. Section (mm):	70 x 22		
		Min. Density (kg/m³):	640		

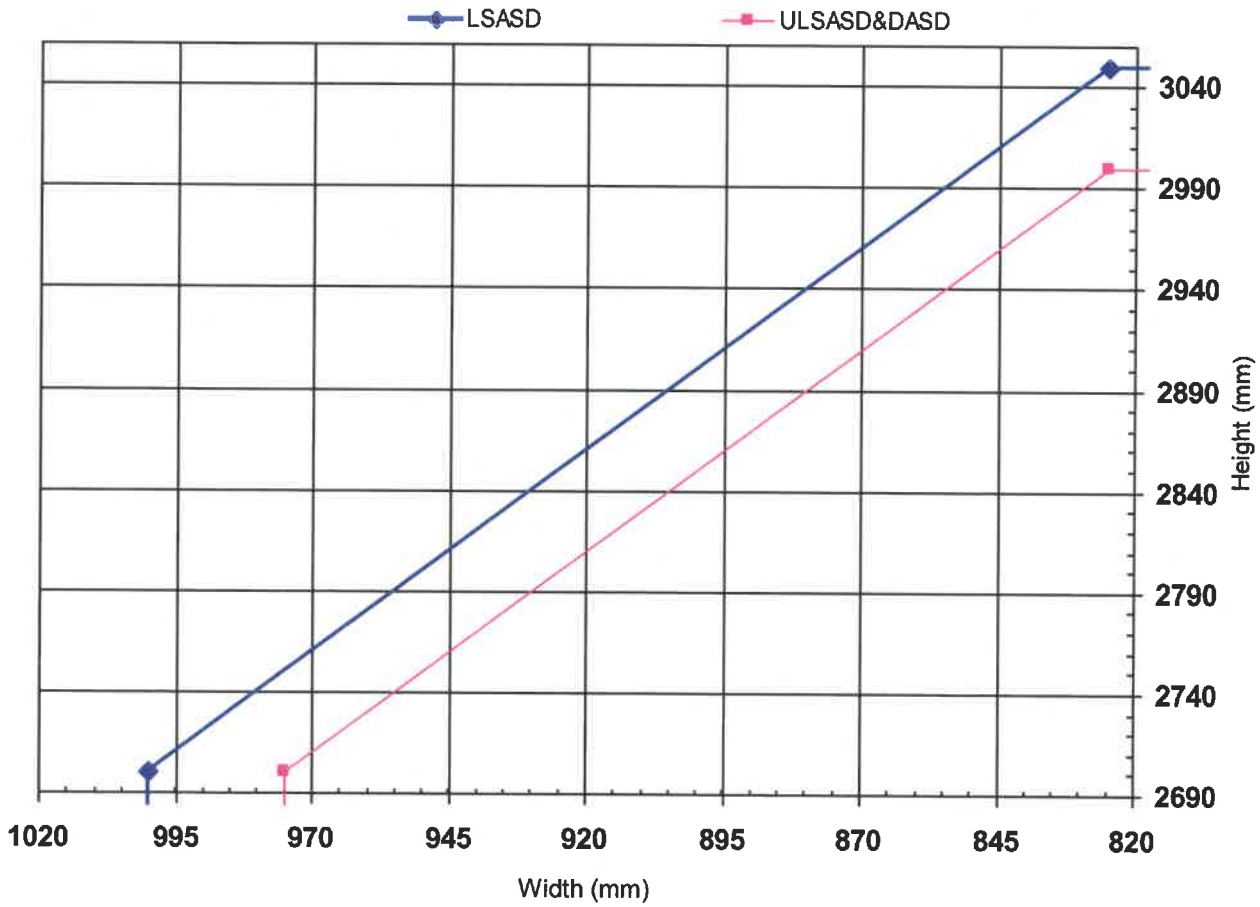
Intumescent Materials: PVC Encapsulated Palusol 100, Type 617, Therm-A-Seal, Pyroplex, 500P or Halspan® Type SLS

Head:
2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Jambs: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets + Overpanel (extended width)

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD+OP	From:	2130	x	1177
		To:	2699	x	915
	ULSASD+OP & DASD+OP	From:	2130	x	1152
		To:	2649	x	915
Maximum Overpanel height (mm)			2000		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

Intumescent Materials: PVC Encapsulated Palusol 100, Type 617, Therm-A-Seal, Pyroplex, 500P or Halspan® Type SLS

Head:
Square: 1No 38 x 4mm exposed and fitted centrally in the leaf or bottom of overpanel.
Rebated: 2 No 15 x 4mm exposed and fitted centrally with one in the rebate and one in the upstand of the overpanel plus 1No 10 x 4mm in the corner of the leaf head rebates.

Jambs and Overpanel: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size

Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets + Overpanel (extended height)

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD+OP	From:	2700	x	950
		To:	2950	x	825
	ULSASD+OP & DASD+OP	From:	2700	x	925
		To:	2900	x	825
Maximum Overpanel height (mm)			2000		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		
		Min. Section (mm):	70 x 22		
		Min. Density(kg/m³):	640		

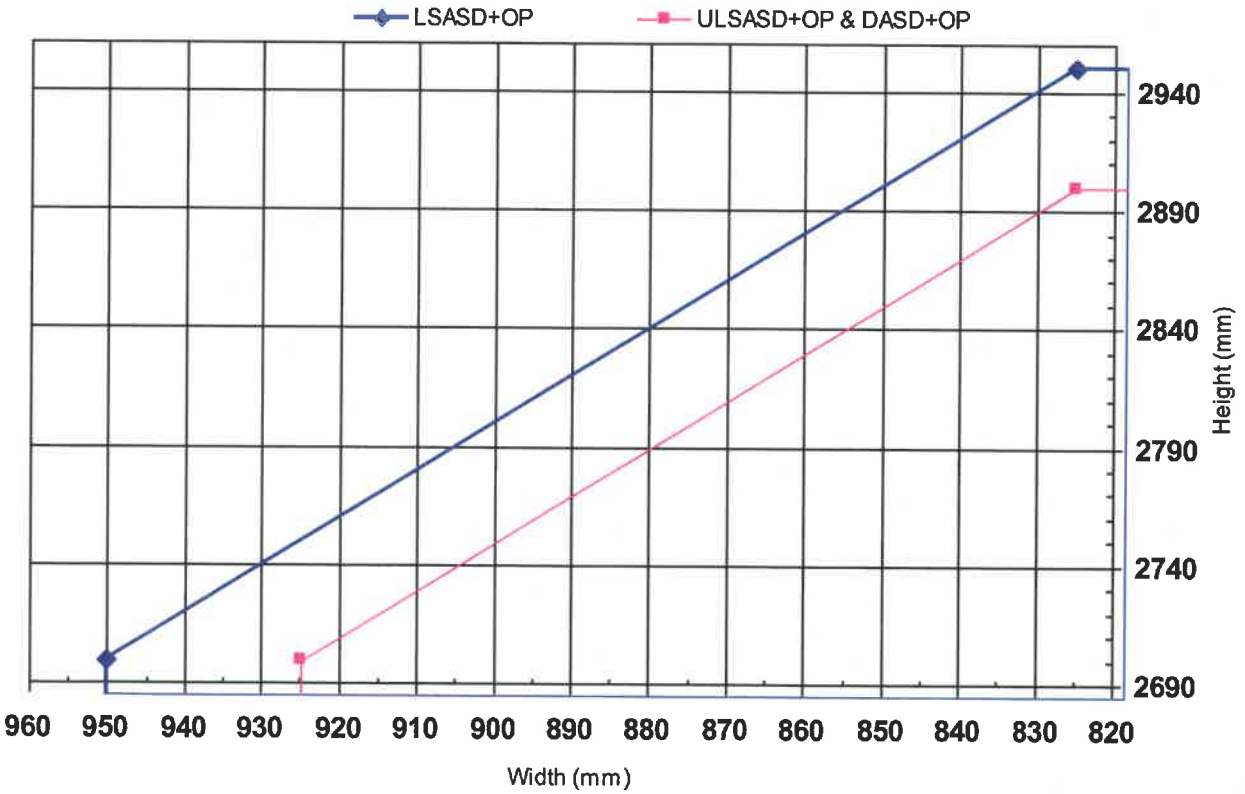
Intumescent Materials: PVC Encapsulated Palusol 100, Type 617, Therm-A-Seal, Pyroplex, 500P or Halspan® Type SLS

Head:
Square: 1No 38 x 4mm exposed and fitted centrally in the leaf or bottom of overpanel.
Rebated: 2 No 15 x 4mm exposed and fitted centrally with one in the rebate and one in the upstand of the overpanel plus 1No 10 x 4mm in the corner of the leaf head rebates.

Jambs and Overpanel: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Double Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2150	x	975
		To:	2300	x	900
	ULSADD & DADD	From:	2150	x	950
		To:	2250	x	900
Maximum Overpanel height (mm)		Transomed	1500		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

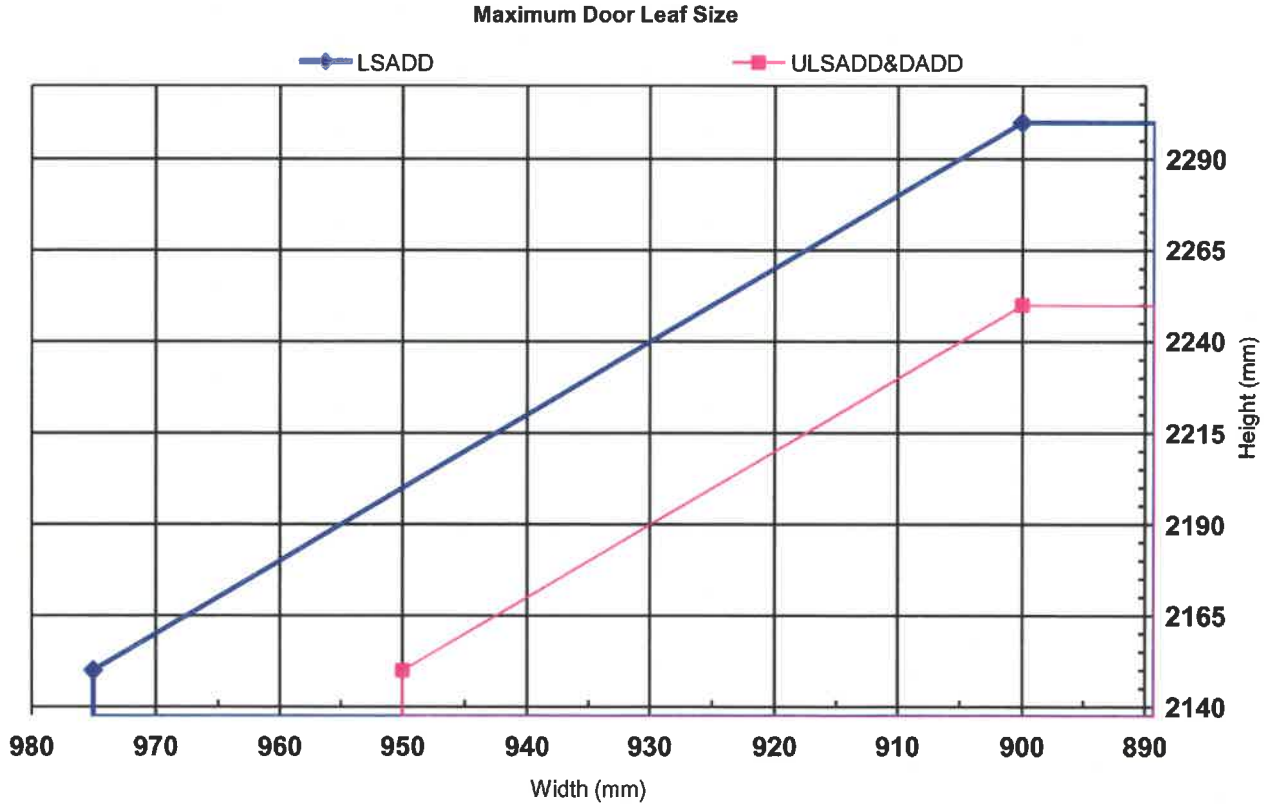
Intumescent Materials: PVC Encapsulated Palusol 100, Type 617, Therm-A-Seal, Pyroplex, 500P or Halspan® Type SLS

Head:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Meeting Edges:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in one leaf edge only.
Rebated: 2 No 15 x 4mm exposed with each seal fitted centrally in the rebate of each leaf.

Jambs: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Double Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2280	x	1022
		To:	2444	x	950
	ULSADD & DADD	From:	2280	x	997
		To:	2394	x	950
Maximum Overpanel height (mm)		Transomed	1500		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

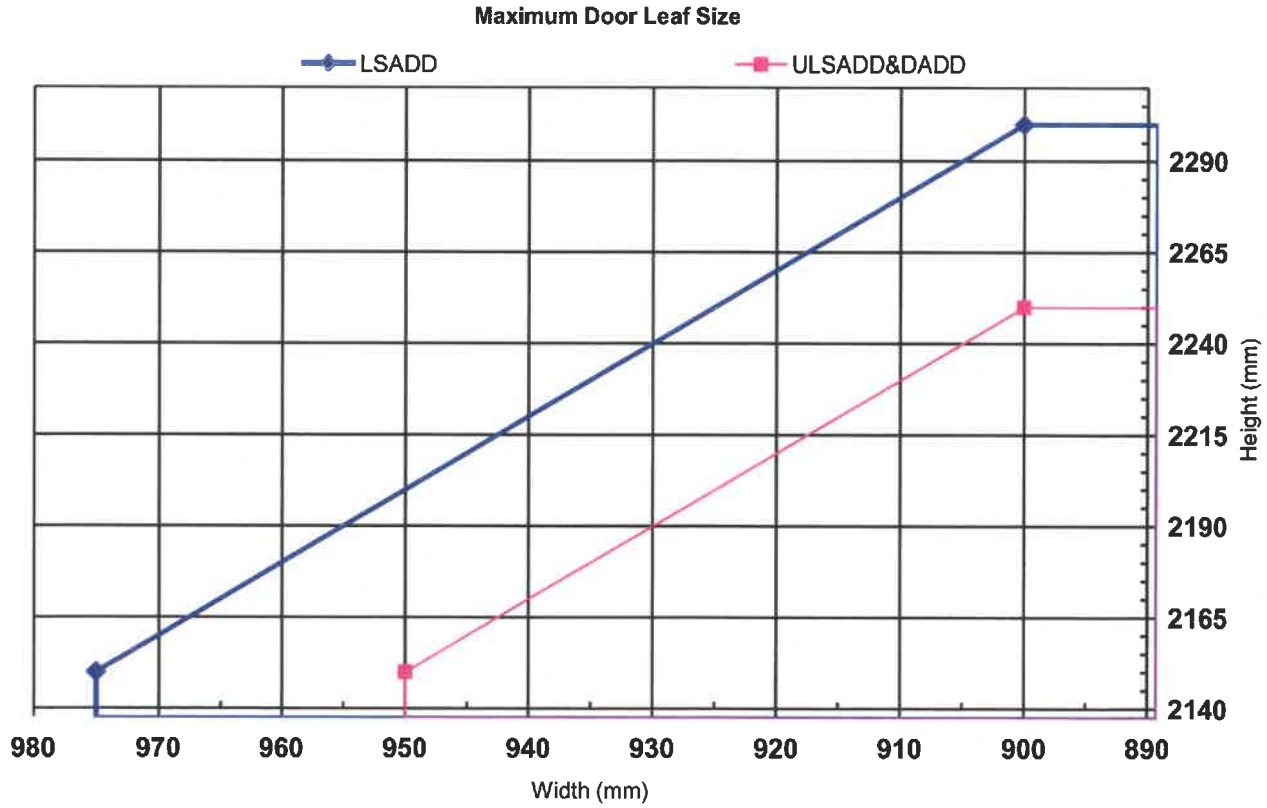
Intumescent Materials: PVC Encapsulated Sealed Tight Solutions STS 154FO

Head:
Square: 2No STS 154FO 15 x 4mm seals exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Meeting Edges:
Square: 2No STS 154FO 15 x 4mm seals exposed and fitted 5mm either side of the centreline in one leaf edge only.

Jambs: 2No STS 154FO 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Double Doorsets – Extended Width

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2300	x	1142
		To:	2386	x	1100
	ULSADD & DADD	From:	2300	x	1117
		To:	2336	x	1100
Maximum Overpanel height (mm)		Transomed	1500		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

Intumescent Materials: PVC Encapsulated 500P or Halspan® Type SLS

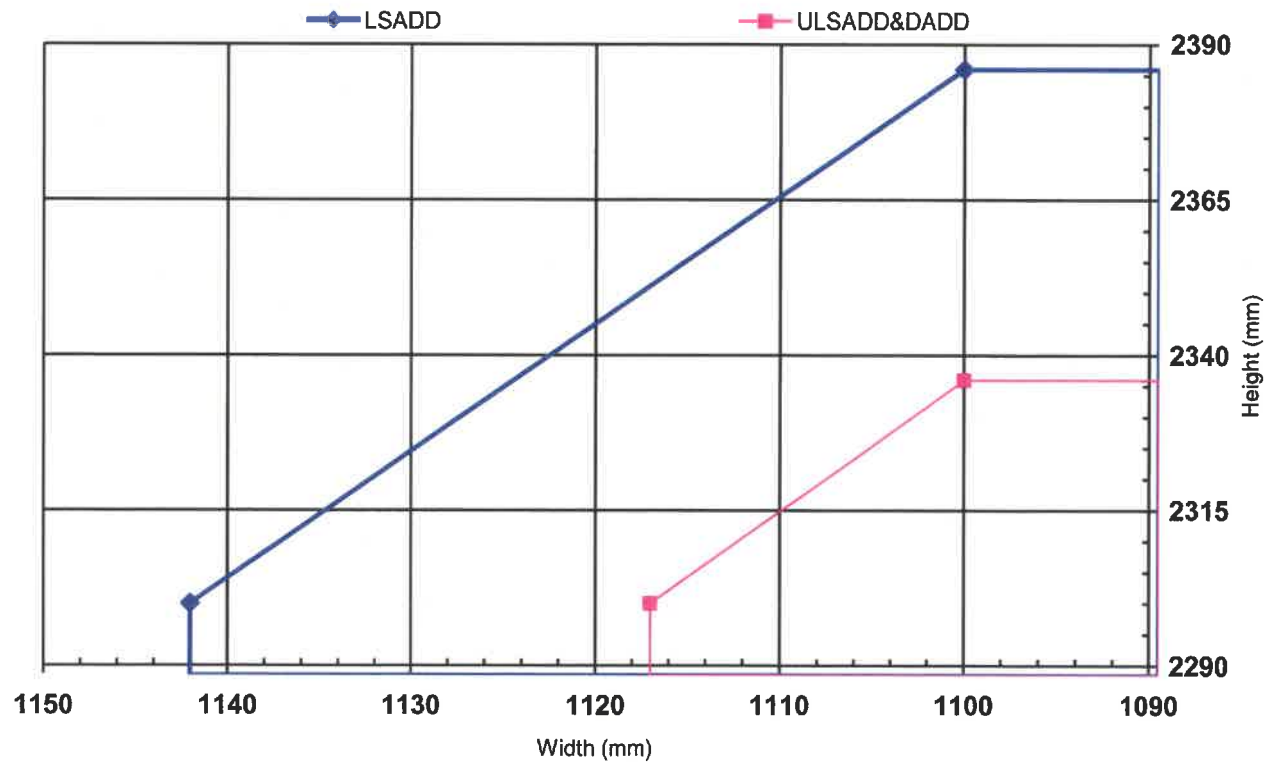
Head:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Meeting Edges:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in one leaf edge only.

Jambs: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Double Doorsets – Extended Height

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2700	x	900
		To:	2850	x	825
	ULSADD & DADD	From:	2700	x	875
		To:	2800	x	825
Maximum Overpanel height (mm)		Transomed	1500		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		
		Min. Section (mm):	70 x 22		
		Min. Density(kg/m³):	640		

Intumescent Materials: PVC Encapsulated Palusol 100, Type 617, Therm-A-Seal, Pyroplex, 500P or Halspan® Type SLS

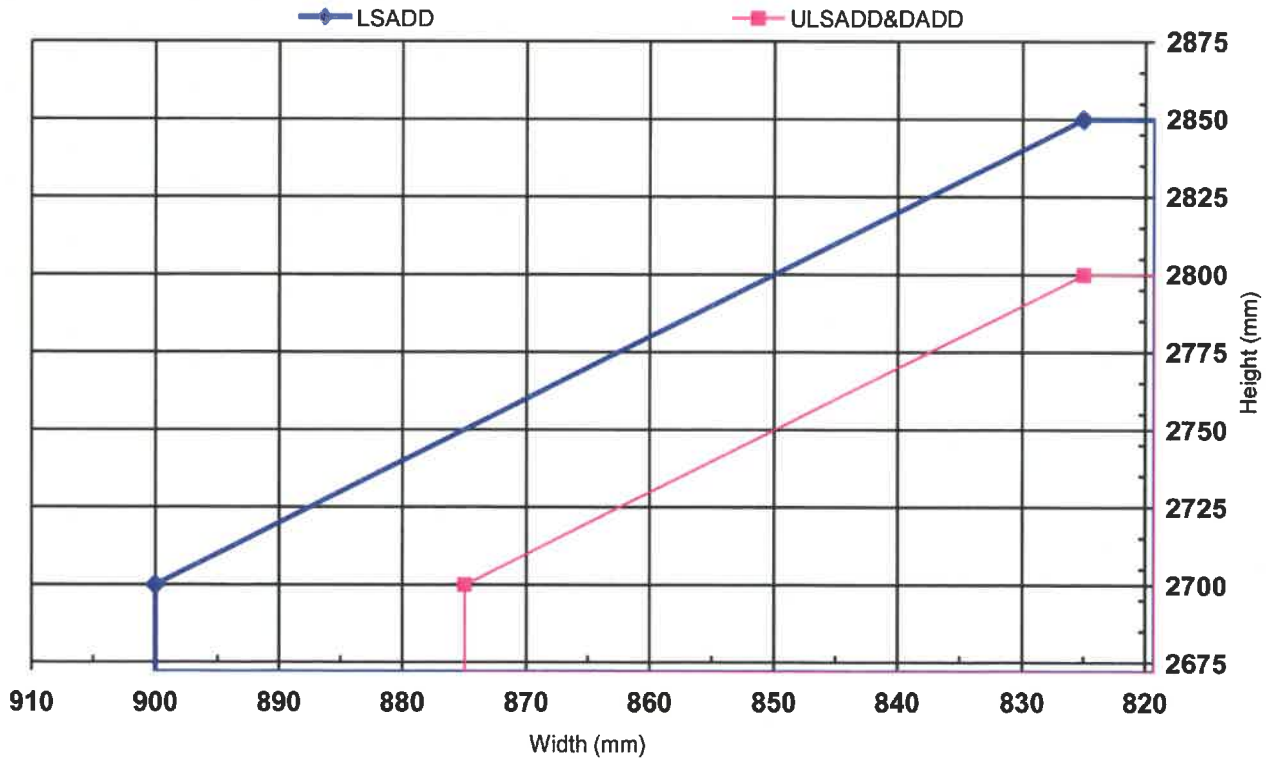
Head:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf or frame head.

Meeting Edges:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in one leaf edge only.
Rebated: 2 No 15 x 4mm exposed with each seal fitted centrally in the rebate of each leaf.

Jambs: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched & Unlatched Single Acting & Double Acting Double Doorsets+OP (extended width)

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD+OP	From:	2150	x	925
		To:	2200	x	900
	ULSADD+OP & DADD+OP	Max:	2150	x	900
Maximum Overpanel height (mm)			1500		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		MDF (≤ 2440 high)
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

Intumescent Materials: PVC Encapsulated Palusol 100, Type 617, Therm-A-Seal, Pyroplex, 500P or Halspan® Type SLS

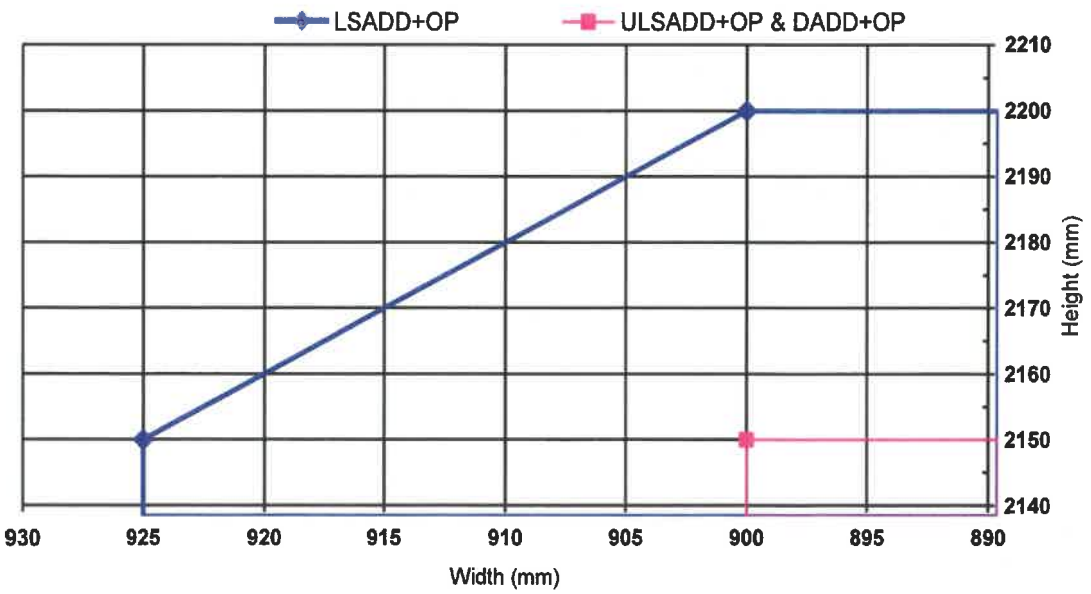
Head:
Square: 1No 38 x 4mm exposed and fitted centrally in the leaf or bottom of overpanel.
Rebated: 2 No 15 x 4mm exposed and fitted centrally with one seal in the rebate and one seal in the upstand of the overpanel plus 1No 10 x 4mm in the corner of the leaf head rebates (maximum leaf height with rebates is 2200mm).

Meeting Edges:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in one leaf edge, and 1No 10 x 4mm fitted centrally in the opposite leaf.

Jambs & Overpanel (overpanel intumescent is optional)**:**
2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Doorsets – 60 Minutes Fire Resistance

Latched & Unlatched Single Acting & Double Acting Double Doorsets+OP (extended height)

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD+OP	From:	2700	x	850
		To:	2750	x	825
	ULSADD+OP & DADD+OP	Max:	2700	x	825
Maximum Overpanel height (mm)			1500		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification (see section 8 for details)		Material:	Hardwood		
		Min. Section (mm):	70 x 22		
		Min. Density(kg/m³):	640		

Intumescent Materials: PVC Encapsulated Palusol 100, Type 617, Therm-A-Seal, Pyroplex, 500P or Halspan® Type SLS

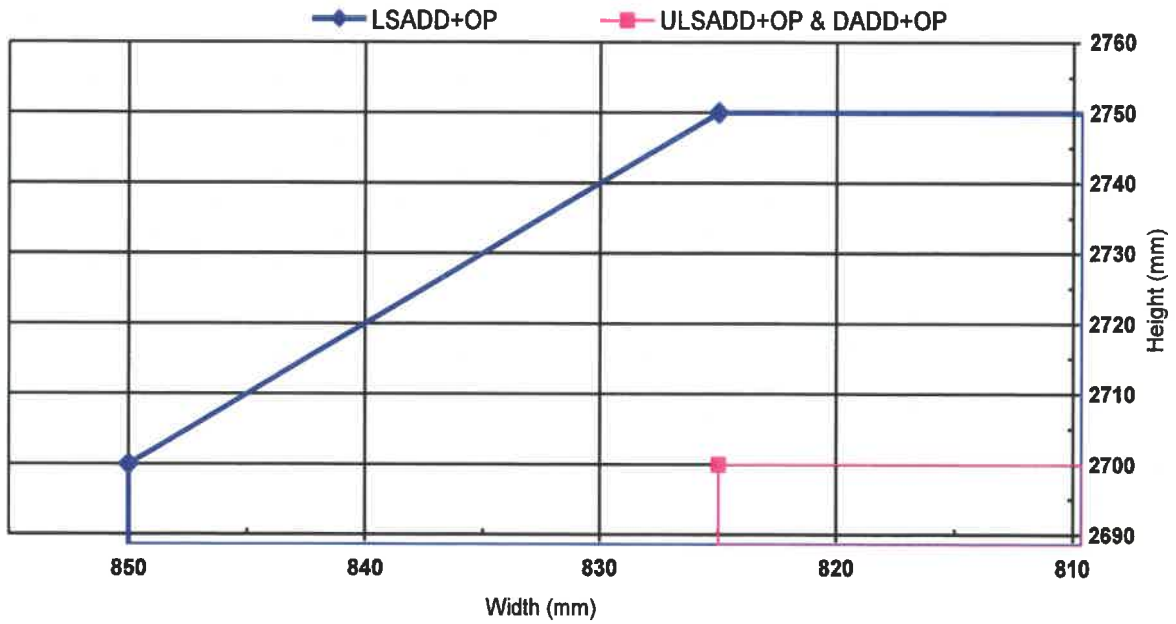
Head:
Square: 1No 38 x 4mm exposed and fitted centrally in the leaf or bottom of overpanel.
Rebated: 2 No 15 x 4mm exposed and fitted centrally with one seal in the rebate and one seal in the upstand of the overpanel plus 1No 10 x 4mm in the corner of the leaf head rebates (maximum leaf height with rebates is 2200mm).

Meeting Edges:
Square: 2No 15 x 4mm exposed and fitted 5mm either side of the centreline in one leaf edge, and 1No 10 x 4mm fitted centrally in the opposite leaf.

Jambs & Overpanel (overpanel intumescent is optional)**:**
2No 15 x 4mm exposed and fitted 5mm either side of the centreline in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Hollow Steel Frame Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2042	x	953
		To:	2345	x	826
	ULSASD & DASD	From:	2042	x	928
		To:	2295	x	826
Maximum Overpanel height (mm)			na		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification		Material:	Mild or stainless steel – See Appendix A		
		Min. Section (mm):	see section 5 in appendix A		

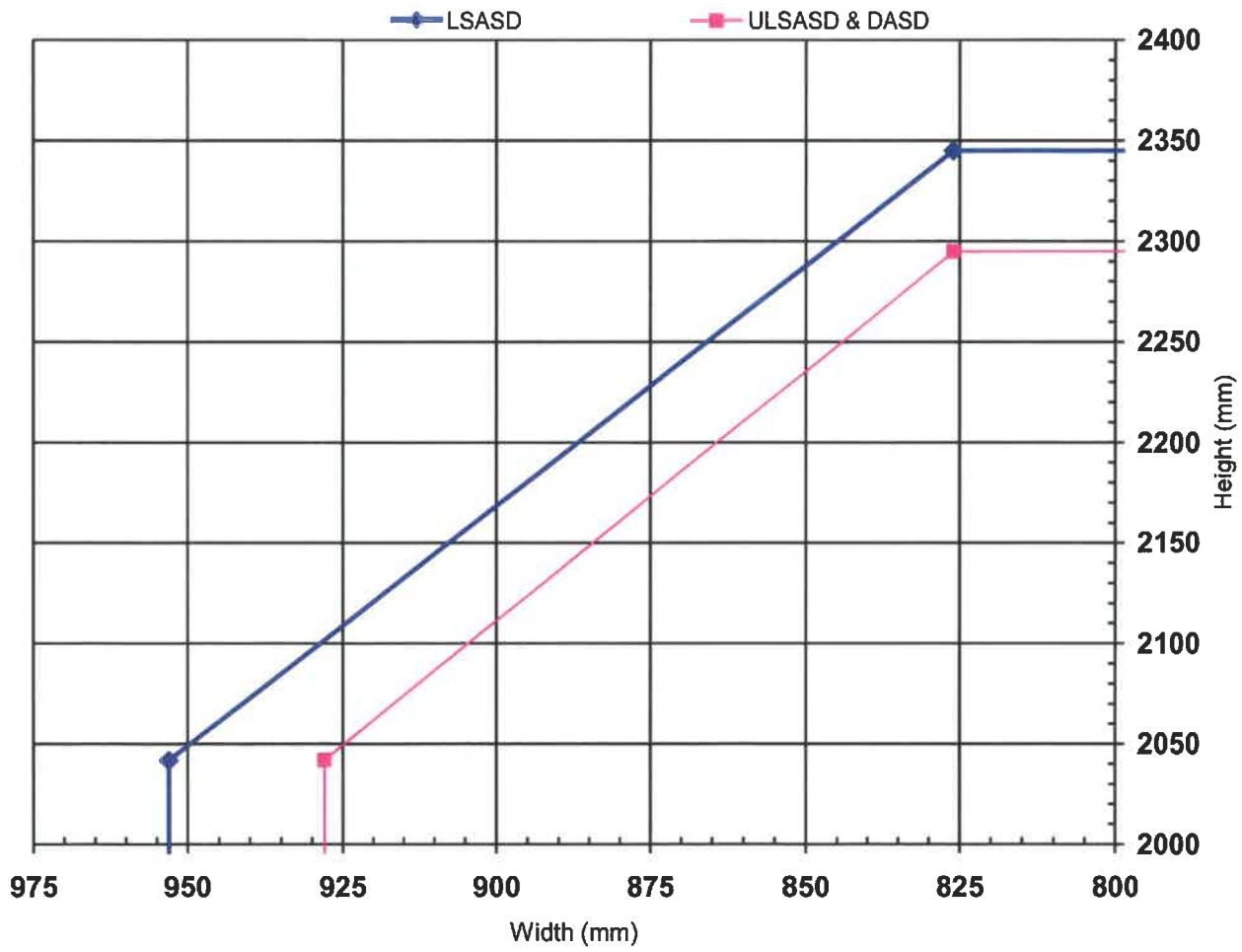
Intumescent Materials:

Head: H60 (details in confidence on file at CIFL)

Jambs: H60 (details in confidence on file at CIFL)

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Hollow Steel Frame Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Double Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2042	x	903
		To:	2245	x	826
	ULSADD & DADD	From:	2042	x	888
		To:	2195	x	826
Maximum Overpanel height (mm)			na		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification		Material:	Mild or stainless steel – see Appendix A		
		Min. Section (mm):	see section 5 in appendix A		

Intumescent Materials: Therm-A-Seal

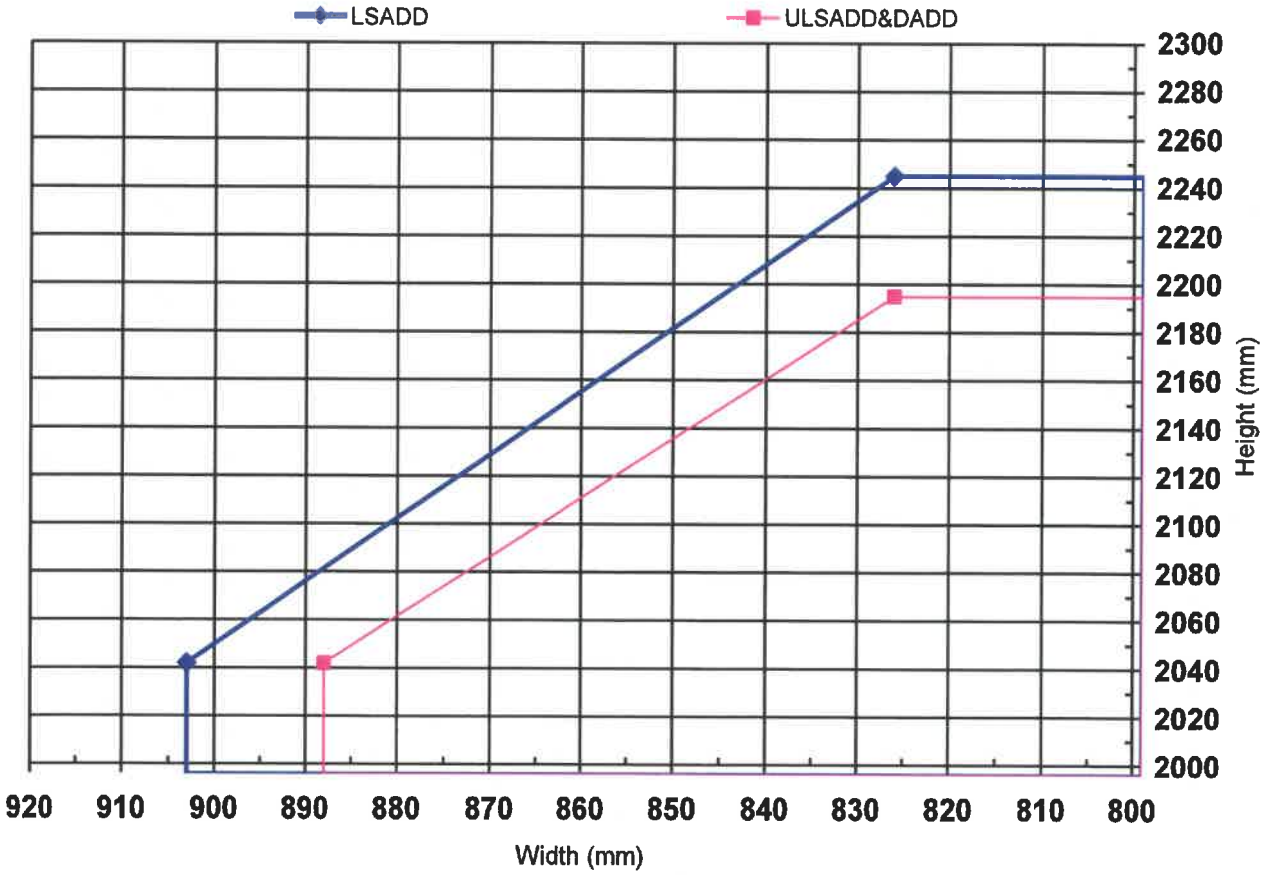
Head:
H60 (details in confidence on file at CIFL).

Meeting Edges:
Square: 2No 10 x 4mm exposed and fitted 5mm either side of the centreline in one leaf edge and 1No 10 x 4mm fitted centrally in the opposite leaf.

Jambs: H60 (details in confidence on file at CIFL).

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Backfilled Steel Frame Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2135	x	1274
		To:	2462	x	1105
	ULSASD & DASD	From:	2135	x	1248
		To:	2412	x	1105
Maximum Overpanel height (mm)			na		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification		Material:	Mild or stainless steel – see Appendix A		
		Backfilling:	Concrete or mortar		
		Min. Section (mm):	see section 5 in appendix A		

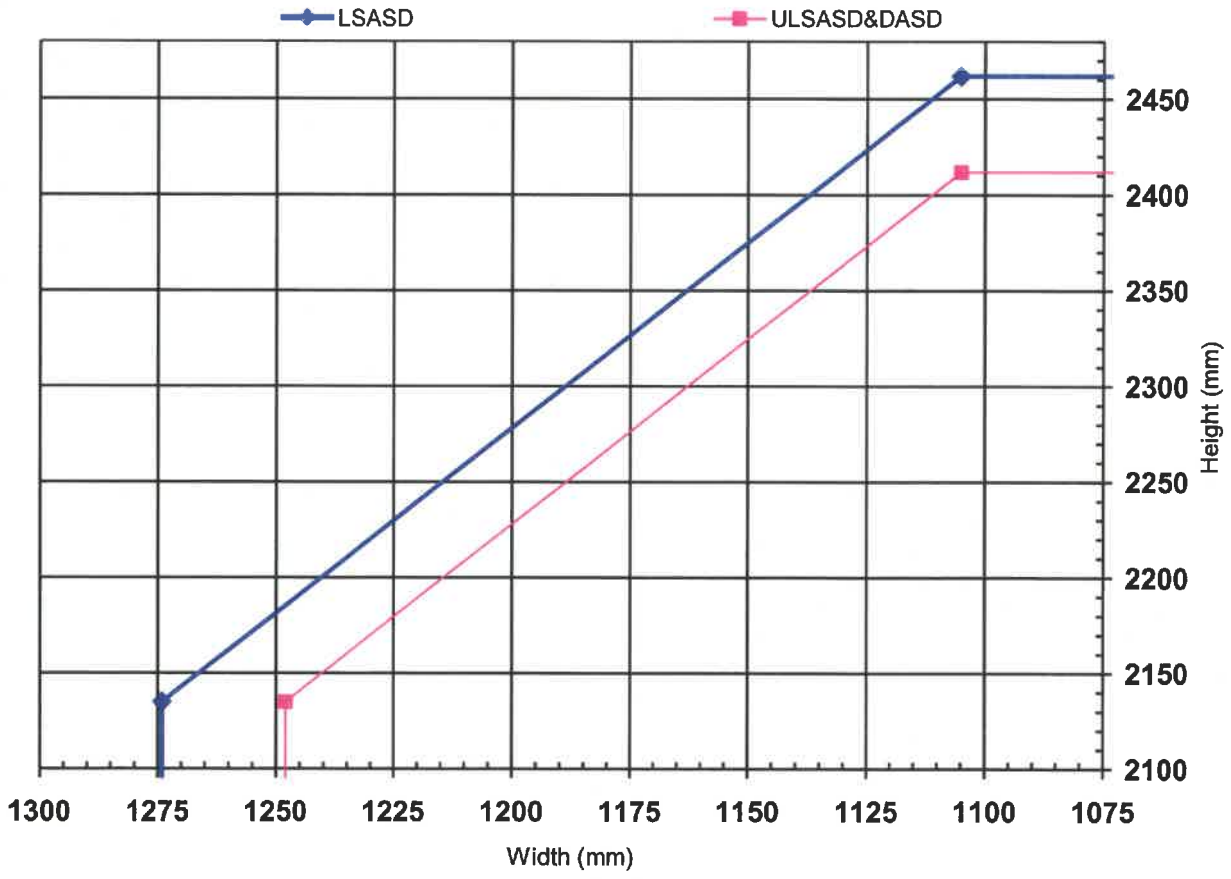
Intumescent Materials: Therm-A-Seal

Head:
Square: 1No 38 x 4mm exposed and fitted centrally in the leaf or frame head.

Jambs: 1No 38 x 4mm exposed and fitted centrally in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Backfilled Steel Frame Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Single Doorsets + Overpanel

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD+OP	From:	2135	x	875
		To:	2285	x	800
	ULSASD+OP & DASD+OP	From:	2135	x	850
		To:	2235	x	800
Maximum Overpanel height (mm)			500		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification		Material:	Mild or stainless steel – see Appendix A		
		Backfilling:	Concrete or mortar		
		Min. Section (mm):	see section 5 in appendix A		

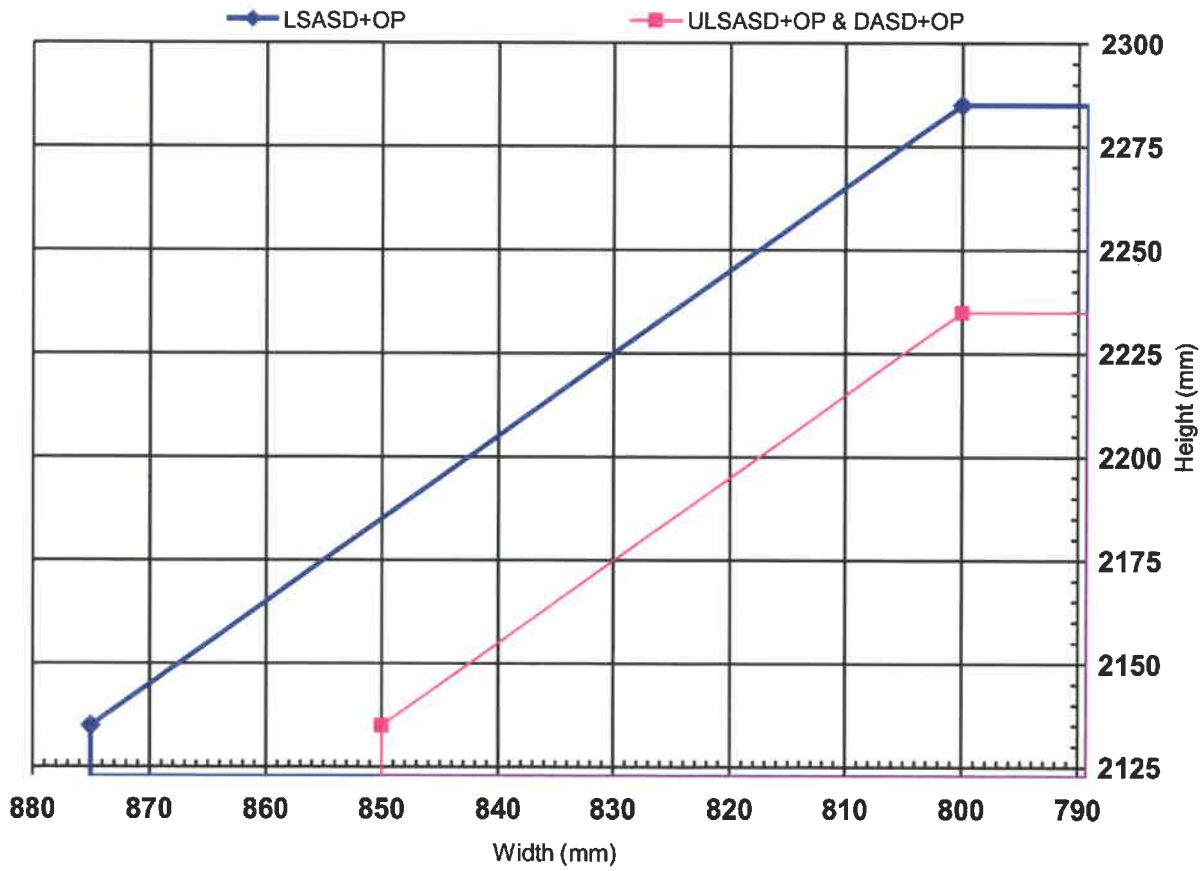
Intumescent Materials: Therm-A-Seal

Head:
Square: 1No 38 x 4mm exposed and fitted centrally in the leaf or bottom of the overpanel.
Rebated: 2No 15 x 4mm exposed and fitted centrally with one seal in the rebate and one seal in the upstand of the overpanel plus 1No 10 x 4mm in the corner of the leaf head rebates.

Jambs & Overpanel: 1No 38 x 4mm exposed and fitted centrally in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Backfilled Steel Frame Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Double Doorsets

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2135	x	945
		To:	2505	x	800
	ULSADD & DADD	From:	2135	x	920
		To:	2455	x	800
Maximum Overpanel height (mm)			na		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification		Material:	Mild or stainless steel – see Appendix A		
		Backfilling:	Concrete or mortar		
		Min. Section (mm):	see section 5 in appendix A		

Intumescent Materials: Therm-A-Seal

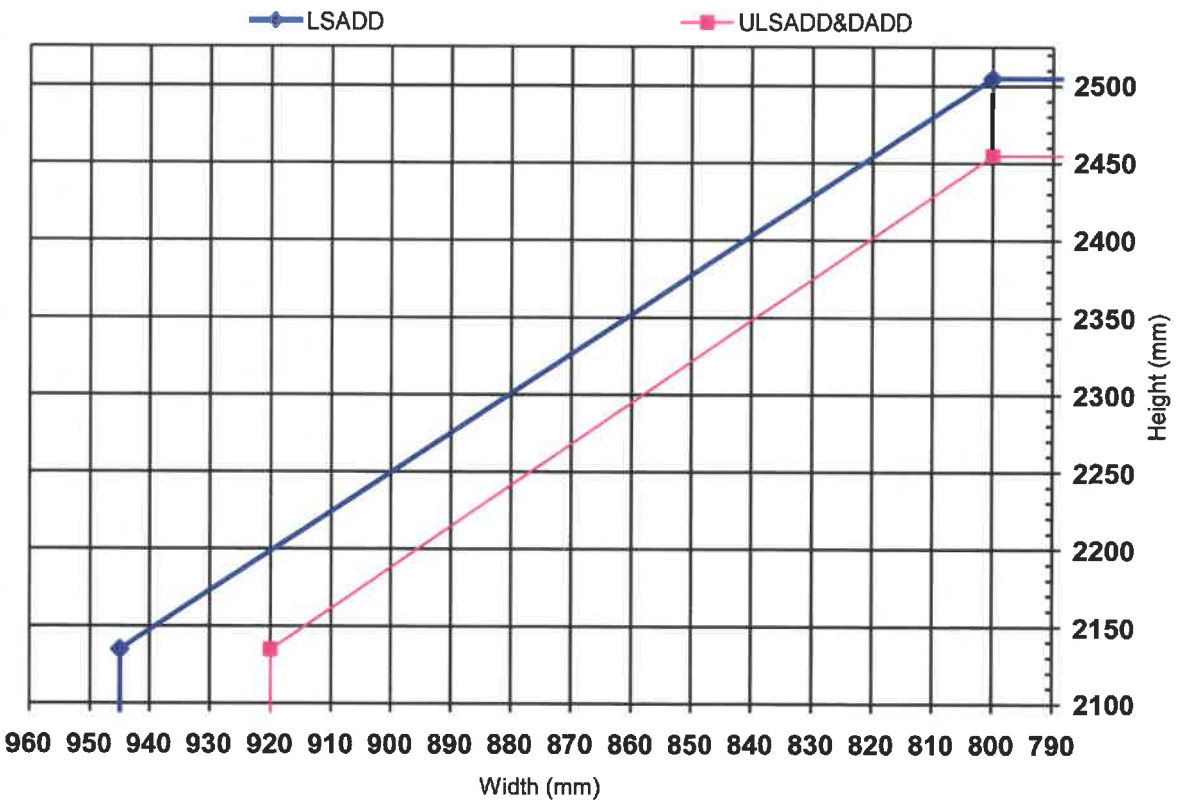
Head:
1No 38 x 4mm exposed and fitted centrally in the leaf or frame head.

Meeting Edges:
Square: 2No 10 x 4mm exposed and fitted 5mm either side of the centreline in one leaf edge and 1No 10 x 4mm fitted centrally in the opposite leaf.

Jambs: 1No 38 x 4mm exposed and fitted centrally in the leaf edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Halspan® 60 Backfilled Steel Frame Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting & Double Acting Double Doorsets + Overpanel

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD+OP	From:	2135	x	825
		To:	2185	x	800
	ULSADD+OP & DADD+OP	Max:	2135	x	800
				x	
Maximum Overpanel height (mm)			500		
Glazing		Maximum Glazed Area:	0.82m² (see section 7 for details and see section 7.6 for 1.33m² option)		
		Approved systems:	See section 7 and appendix B		
Frame specification		Material:	Mild or stainless steel – see Appendix A		
		Backfilling:	Concrete or mortar		
		Min. Section (mm):	see section 5 in appendix A		

Intumescent Materials: Therm-A-Seal

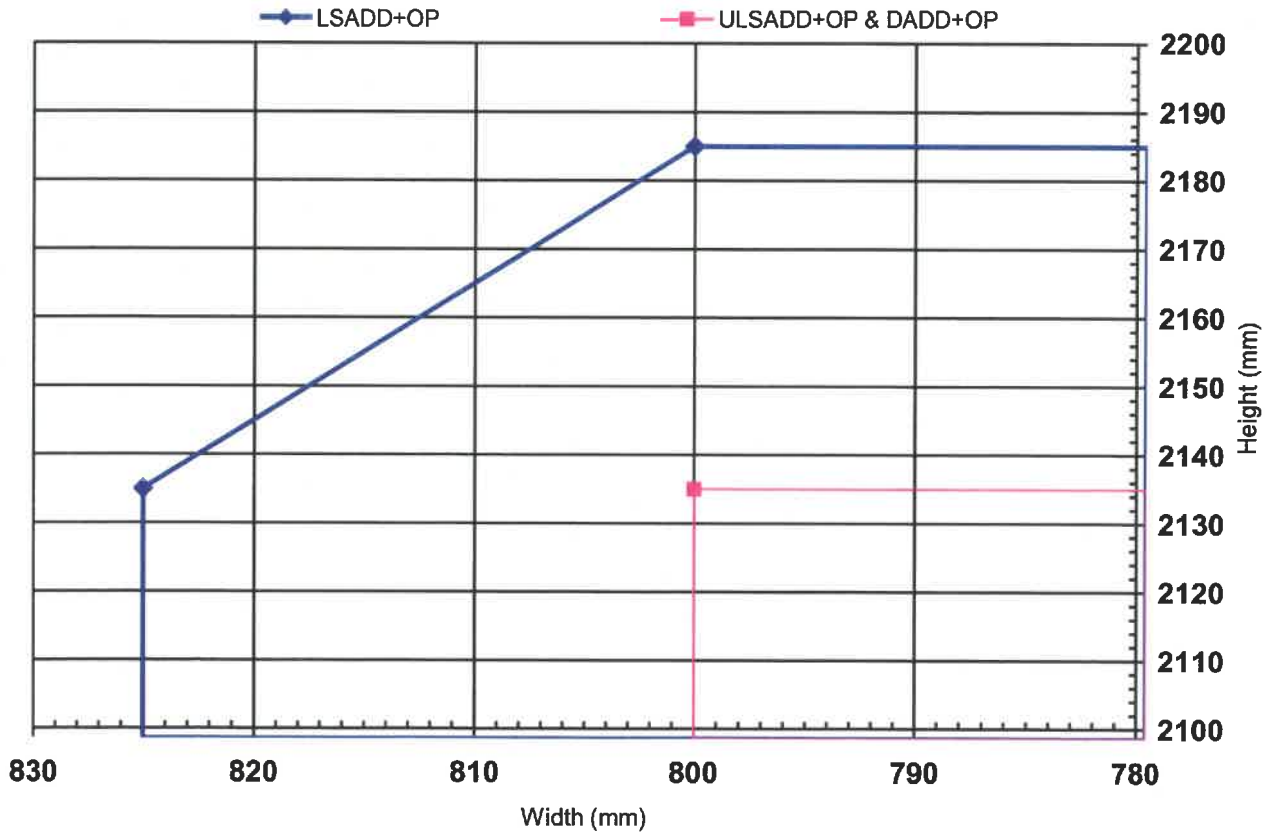
Head:
Square: 1No 38 x 4mm exposed and fitted centrally in the leaf or bottom of the overpanel.
Rebated: 2No 15 x 4mm exposed and fitted centrally with one seal in the rebate and one seal in the upstand of the overpanel plus 1No 10 x 4mm in the corner of the leaf head rebates.

Meeting Edges:
Square: 2No 10 x 4mm exposed and fitted 5mm either side of the centreline in one leaf edge and 1No 10 x 4mm fitted centrally in the opposite leaf.

Jambs & Overpanel: 1No 38 x 4mm exposed and fitted centrally in the leaf/overpanel edge or frame reveal.

Hardware Protection: see section 12

Maximum Door Leaf Size



Appendix G
Halspan® 60 Plus Doorsets

1. Introduction

This appendix contains information relating to Halspan® 60 Plus doorsets. The assessment uses the same extrapolation and interpretation techniques applied for the main assessment and is an evaluation of the potential fire resistance performance, if the elements were to be tested in accordance with BS 476-22:1987.

All construction details for the Halspan® Plus design are to remain as stated in the main body of the assessment, unless otherwise specified in the following sections.

2. General Description of Construction

The construction for door leaves of this design comprises a solid sheet of 54mm thick Halspan® 60 Plus three layered particleboard (nominal density 620kg/m³ +/- 10%). The Halspan® Plus design has no added urea formaldehyde. Where specified, the leaves are lipped with hardwood.

3. Leaf Sizes

The approval for increased leaf dimensions is based on test CFR 1103171 and takes into account the margin of over performance above 60 minutes integrity for the design and the characteristics exhibited during test. Data sheets specifying the maximum approved leaf sizes and graphs showing the permitted gradient between maximum height and width are contained at the end of this appendix.

Doorsets with reduced dimensions are deemed to be less onerous. Therefore, doors with dimensions that are less than those given in the data sheets may be manufactured.

4. Configurations

Based on the cited test evidence this assessment covers the following doorset configurations for the Plus design:

Abbreviation	Description
LSASD & ULSASD	Latched & unlatched single acting single doorset
LSADD & ULSADD	Latched & unlatched single acting double doorset

Unequal leaf double doorsets are covered by this assessment with no restriction on the smaller leaf dimension.

5. Leaf Size Adjustment

See section 5 of the main assessment

6. Overpanels

Only overpanels fitted with a transom are permitted for the Plus design. See section 6 for construction details

7. Glazing

The maximum assessed glazed area for the Plus design is 0.5m². All other details for glazing given in section 7 of the main assessment must be followed.

8. Door Frames

All door frame options given in section 8 of the main assessment are permitted with the Plus design except for steel.

9. Timber Lippings

Halspan® 60 Plus must be lipped in accordance with the following specification.

Material	**Size** (mm)	**Min Density** (kg/m³)
Hardwood meeting or exceeding class J30 as specified in BS EN 942: 2007 (subject to adequate repair of any defects)	1. Flat = 6 – 18 thick with a maximum of 2mm profiling permitted at corners of lipping (see section 8.1 of main assessment) 2. Rebated = Not permitted	640

1. Overpanels separated from the leaf heads with a transom do not need to be lipped.
2. Plus may only be lipped on the vertical edges of the leaves
3. A 2.5^0 chamfer is permitted to the lipping at the leading edge of leaves providing the door gaps meet the requirements of section 17 in the main assessment.

10. PVC Lippings

Halspan® 60 Plus may be lipped with PVC in accordance with the following specification.

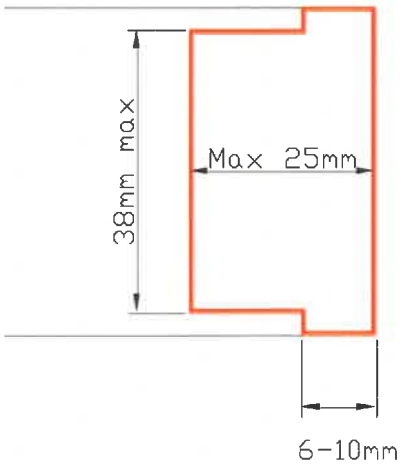
Material	Size (mm)	Min Density (kg/m^3)
PVC	2 thick	-

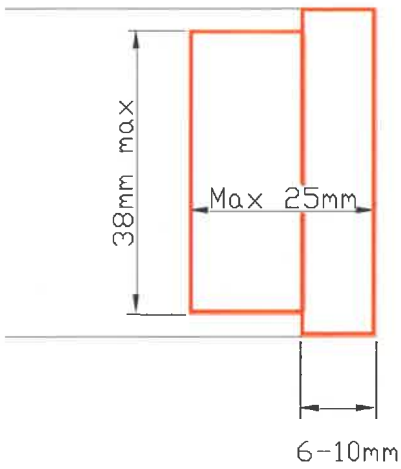
1. Can be fitted direct to Halspan® 60 Plus core on the vertical and horizontal edges
2. Can be fitted onto hardwood lippings at the vertical edges only as per section 9 of this appendix

11. T-Shaped Lippings

In certain circumstances, a 'T' section lipping may be required which will be bonded into a groove machined in the edge of the leaf. This option is acceptable providing the tongue is a maximum of 38mm wide and otherwise meets the specification given in section 9 of this appendix. The 'T' section lipping may be in two sections with the exposed lipping being within the range of 6 – 10mm thick. All glue lines must be as stated in section 15 of this appendix.

See drawings below:





12. Edge Protectors

The Plus design may be fitted with the edge protectors as described in section 10 of the main assessment

13. Facings

The basic 54mm thick Halspan® 60 Plus leaf construction has integral facings and does not therefore require additional facing materials as standard.

The following facing materials are permitted for this door design since they would degrade rapidly under test conditions without significant effect:

Facing Material	**Maximum Permitted Thickness** (mm)
Paint	0.5
Timber veneers	2
PVC	2
Plastic laminates	2
Decorative paper / non-metallic foil	0.4

1. Metallic facings are not permitted except for push plates and kick plates (see section 15.6 of the main assessment)
2. The door leaf thickness may be reduced by a total maximum of 0.5mm for calibration purposes in order to accommodate the chosen finish
3. Materials must not conceal intumescent strips
4. Other than PVC, the facing materials must not return around the edge of leaf
5. The PVC may be post-formed over the vertical and horizontal edges provided that the required intumescent specification detailed in the data sheets at the end of this appendix is maintained. The maximum radius at the corners of the leaf for post formed doors is 8mm, see diagram in section 8.1 of the main assessment for details.

14. Intumescent Materials

Intumescent products can often exhibit significantly different characteristics, which could alter the performances obtained during test, and therefore they must not be considered interchangeable, irrespective of whether the product has been tested and the seal dimensions maintained. The intumescent materials tested and assessed for the Plus doorset design are as follows:

Application	Location	Product/Manufacturer
Edge seals	Fitted in the frame jambs or leaf edges	1. PVC encased SLS-PLA-103 – Halspan Ltd
Hinges	Under both hinge blades	1. 1mm Interdens – Dufaylite Developments Ltd 2. 1mm MAP paper – Lorient Polyproducts Ltd 3. 1mm Pyrostrip 300 – Mann McGowan 4. 1mm Therm-A-Strip – Intumescent Seals Ltd 5. 1mm SLS-PAD-107 – Halspan Ltd
Lock/latches	Encasing the lock body and underneath the forend and strike plate	1. 1mm Interdens – Dufaylite Developments Ltd 2. 1mm MAP paper – Lorient Polyproducts Ltd 3. 1mm Pyrostrip 300 – Mann McGowan 4. 1mm Therm-A-Strip – Intumescent Seals Ltd 5. 1mm SLS-PAD-107 – Halspan Ltd
Flush bolts	Lining all sides of the mortices, including the keeps	1. 2mm Interdens – Dufaylite Developments Ltd 2. 2mm MAP paper – Lorient Polyproducts Ltd 3. 2mm Therm-A-Strip – Intumescent Seals Ltd 4. 2mm Therm-A-Flex – Intumescent Seals Ltd 5. 2mm SLS-PAD-107 – Halspan Ltd

The seal specification for each configuration is contained in the data sheets at the end of this appendix.

Concealed intumescent materials are not permitted for use with the Plus door design.

15. Adhesives

The following adhesives must be used in the construction:

Element	Product/Manufacturer
Timber lippings	UF, PF, PU, PVAC, PU based hotmelt
PVC lippings	Contact adhesive

16. Hardware

The following hardware, tested on the Halspan® 60 design, has been approved for use with the Halspan® 60 Plus door design:

Element	Manufacturer and Product Reference
Hinges	1. 100 x 30mm standard steel butt hinges 2. 101 x 30mm Fireblock stainless steel hinges 3. Royde & Tucker H105 lift off hinges 4. Royde & Tucker H101 lift off hinges 5. Cairney Hardware SOSS type hinges 6. 114 x 30mm ASSA lift off type butt hinge ref: 3244 7. 101 x 30mm Halspan R60 butt hinge ref: BOM-HIN-200/1
Closers	1. Dorma TS83 face fixed overhead closer 2. Geze TS200 VW face fixed overhead closer 3. Halspan R60 Eco closer ref: CLR-AGN-101 4. Halspan R60 power closer ref: CLR-BSS-101 5. Cairney Hardware Ltd Mitron C2300 concealed overhead closer 6. ITS 96 concealed overhead closer with tested proprietary intumescent system
Locks/latches	1. Standard tubular mortice latch 2. Firco multi point lock/latch 3. Halspan R60 latch/lock ref: BOM-LCK-104 4. Cairney Architectural Hardware Solutions – C4100 Shearmag lock
Threshold seals	1. Halspan threshold drop seal ref: SAC PA 08935 ref: SLS-DRP-100 range 2. Norseal threshold drop seal ref: 810

1. The GU Ferco 3 Deadbolt requires a 25 x 4mm thick intumescent strip in the closing edge frame reveal in lieu of the specification shown in appendix F and can only be used on single leaf doorsets of maximum leaf height 2231mm, and must be used in a hardwood (640kg/m^3) door frame.
2. The Cairney Hardware Shearmag lock must be used in conjunction with a twin strip perimeter intumescent specification at the head of the door in conjunction with the Halspan intumescent protection pack fitted around the body of the lock
3. The Cairney Hardware Mitron C2300 concealed overhead closer must be used in conjunction with a twin strip perimeter intumescent specification at the head of the door in conjunction with the Halspan intumescent protection pack fitted around the body of the closer
4. The Dorma ITS 96 concealed overhead closer may be used with a single strip perimeter intumescent specification providing the strip is = to or > 25 x 4mm and centrally fitted. The closer may also be used with a twin strip perimeter intumescent specification at the head of the door providing the seals are = to or > than 15 x 4mm. The closer must always be used in conjunction with the proprietary intumescent pack to be provided by the supplier of the closer. The door stop will need to be a minimum depth of 14mm to accommodate the closer.
5. Locksets with forends/keeps = to or >than 150mm high must either be used with a twin strip perimeter intumescent specification or if a single strip system is to be used an additional seal must be fitted to run along side the forend/keep.

Alternative Hardware

The following additional and alternative hardware is permitted for use with the Halspan® 60 Plus door design:

Hinges

Leaves must be hung on a minimum of 3 hinges. Hinges with the following specification are acceptable:

Element		Specification	
Blade height:		90 - 120mm	
Blade width (excluding knuckle):		30 - 35mm	
Blade thickness		2.5 - 4mm	
Fixings:		Minimum of 4 No. 30mm long No. 8 or No.10 steel wood screws per blade	
Materials:		Steel or stainless steel	
Hinge positions:	If 3 hinges are required:	Top	100 –180mm from the head to top of hinge
		2nd	Minimum 200mm from top hinge or centrally fitted between top and bottom hinge. Additional hinges may be fitted equispaced between 2nd and bottom.
		Bottom	150 - 250mm from the foot of leaf to bottom of hinge
	If 4 hinges are required:	Top	100-180mm from the head to top of hinge
		2nd & 3rd	Equispaced between top and bottom or 2nd hinge 200mm from top hinge and 3rd hinge equally spaced between 2nd and bottom hinge. Additional hinges may be fitted with 3rd and 4th equispaced between 2nd and bottom hinge
		Bottom	150 - 250mm from the foot of leaf to bottom of hinge
Intumescent protection:		See section 12 of this appendix	

Automatic closing

Automatic closing devices must be as tested or components that have demonstrated contribution to the required 60 minutes performance of this type of flush doorset design and intumescent specification (as in appendix F), at a similar leaf thickness and when tested to BS 476-22:1987 or BS EN 1634-1.

Note: Pivots and floor spring assemblies are not approved for the Halspan® 60 Plus door design.

Latches and locks

Latches and locks must either be as tested, or alternatively components with the following specification are acceptable:

Element	Specification
Maximum forend and strike plate dimensions:	235mm high by 25mm wide by 4mm thick
Maximum body dimensions:	18mm thick by 100mm wide by 165mm high.
Intumescent protection:	See section 14 of this appendix
Materials:	All parts essential to the locking/latching action (including the latch bolt, forend and strike) to be steel

Other Additional and Alternative Hardware

All other items of additional and alternative hardware listed 15.4 to 15.14 in the main assessment are acceptable for use with the Halspan® 60 Plus door design.

17. Classification of Timber

All timber must meet or exceed class J30 as specified in BS EN 942:2007, providing any defects are adequately repaired.

18. Door Gaps

See section 17 in the main assessment for required door gaps

19. Structural Opening

See section 18 in the main assessment for required structural opening

20. Fixings

See section 19 in the main assessment for required fixings

21. Sealing to Structural Opening

See section 20 in the main assessment for required sealing to structural opening

22. Insulation

Insulation performance may be claimed for a doorset to this design meeting the following:

Type	Details
Partially insulating	Doorsets incorporating up to 20% of non-insulating glazing
Fully insulating	Unglazed doorsets

23. Smoke Control

See section 22 of the main assessment for the smoke control requirement

24. Conclusion

If the Halspan® 60 Plus doorset design, constructed in accordance with the specification documented in this appendix, were to be tested in accordance with BS 476-22:1987, it is our opinion that it would provide a minimum of 60 minutes integrity and insulation (subject to section 22 in this appendix).

Halspan® 60 Plus Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single and Double Acting Single Doorsets – Halspan® Type SLS

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSASD	From:	2039	x	901
		To:	2189	x	826
	ULSASD	From:	2039	x	876
		To:	2139	x	826
Maximum Overpanel height (mm)		Transomed	2000		
Glazing		Maximum Glazed Area:	0.5m² (see section 7 in main assessment for details)		
		Approved systems:	See section 7 and appendix B in main assessment		
Frame specification (see section 8 in main assessment)		Material:	Hardwood		MDF
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

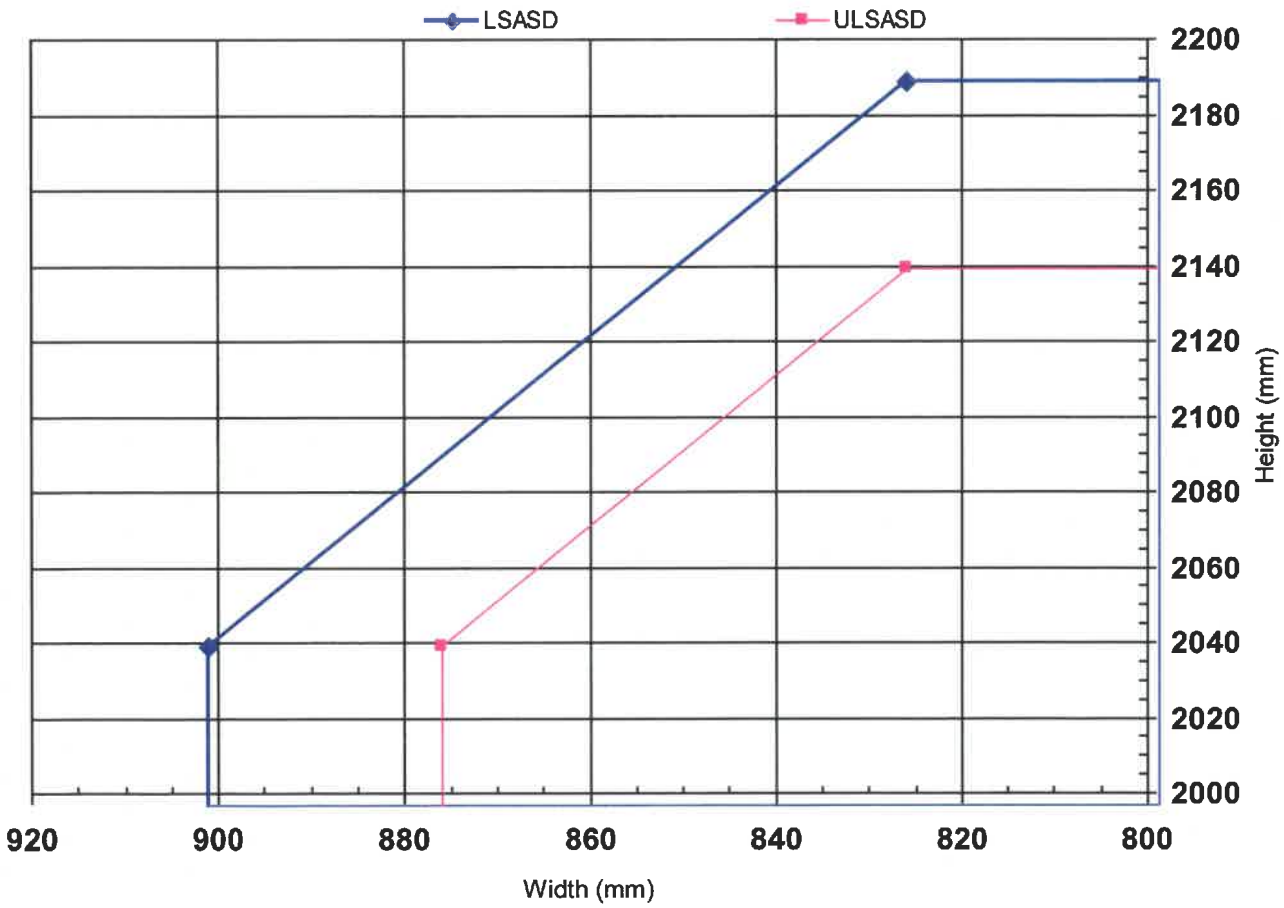
Intumescent Materials: Halspan® Type SLS

Head 2 No 15 x 4mm spaced 8mm apart and centrally fitted in the frame reveal or leaf edge

Jambs: 2 No 15 x 4mm spaced 8mm apart and centrally fitted in the frame reveal or leaf edge

Hardware Protection: see section 14 in this appendix

Maximum Door Leaf Size



Halspan® 60 Plus Doorsets – 60 Minutes Fire Resistance

Latched and Unlatched Single Acting Double Doorsets – Halspan® Type SLS

	Configuration		Height (mm)		Width (mm)
Leaf Sizes	LSADD	From:	2039	x	851
		To:	2089	x	826
	ULSADD	From:	2039	x	826
		To:	2039	x	826
Maximum Overpanel height (mm)		Transomed	1500		
Glazing		Maximum Glazed Area:	0.5m² (see section 7 in main assessment for details)		
		Approved systems:	See section 7 and appendix B in main assessment		
Frame specification (see section 8 in main assessment)		Material:	Hardwood		MDF
		Min. Section (mm):	70 x 22		70 x 30
		Min. Density(kg/m³):	640		700

Intumescent Materials: Halspan® Type SLS

Head: 2 No 15 x 4mm spaced 8mm apart and centrally fitted in the frame reveal or leaf edge

Meeting edges: 2 No 15 x 4mm spaced 8mm apart and centrally fitted in one meeting edge only

Jambs: 2 No 15 x 4mm spaced 8mm apart and centrally fitted in the frame reveal or leaf edge

Hardware Protection: see section 14 in this appendix

Maximum Door Leaf Size