

RHINO-SI

INSULATED SLIDING DOORS

PRODUCT DATASHEET: **PD21**



Rhino-SI
One way



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Rhino-SI Insulated Sliding Doors

Flexible large opening sliding access door, typically used for vehicular access. Standard door is fully insulated, options for fully glazed versions

Configurations

Sliding (one way) and bi-parting sliding with single flat panel or multiple leaves running on up to 6 tracks

Performance

Panel U-Value 0.4W/m²/°C
Acoustic: R_w25dB overall for door

Maximum Opening size

30,000mm x 6,000mm (w x h) maximum for electric operation, up to 100,000mm wide openings for manual doors

Door Panels

52mm for leaf height up to 6000mm high, for leaf heights >6000mm, 62mm thick. Cold rolled galvanised steel internal frame 1.6 to 2mm thick, and 0.7 to 0.9mm thick skins, CFC-free polyurethane foam core

Guides & Rails

Top track (Top hung) is 5mm pressed steel 'C' section - painted, bottom guide track is 3mm thick galvanised pressing

Bottom rolling option uses 16mm wide bar with heavy duty rollers

Operation

Manual, semi-automatic or fully automatic electric operation

Optional extras

Fully glazed
Vision panels
Wicket door

Finishes

'Colorcoat' sheets from a range of standard colours
Galvanised steel
Powder coated in a choice of RAL colours



Detailed Rhino-SI product datasheet

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	Manually operated door	Electrically operated door
Type of Door	<p>Top Hung (THM) or Bottom Rolling (BRM), flat panelled straight sliding doors. Doors can be configured in single or multiple leaves running on up to 6 parallel tracks. Leaves can slide within or clear of the opening to create a completely versatile sliding door system. Doors are internally mounted.</p>	<p>Top Hung (THE) or Bottom Rolling (BRE), flat panelled, straight sliding doors. Doors can be configured in single or multiple leaves running on up to 6 parallel tracks. Leaves slide clear of the opening to one of both sides. Doors are internally mounted.</p> <p>Multiple track configurations are fitted with an internal cable sheaving system, which links the leading (Drive) leaf to each of the trailing (Idler) leaves, so that during operation, all leaves move at differential speeds and reach the fully open and closed positions at the same time.</p>
	Rhino-SI standard details	
	Manually operated door	Electrically operated door
Technical Details	<p>Max leaf width 4550mm. Leaf thickness 102mm. Max opening width 10000mm (100m) Max height 6000mm⁽¹⁾. Track centres 145mm. Panel U-value 0.40 W/m²/°C. Headroom required - 180mm to 250mm. Weight of leaf 25kg/m².</p>	<p>Max leaf width 4550mm. Max opening width (1-way) 15000mm⁽¹⁾. Max opening width (bi-part) 30000mm⁽¹⁾. Max height 6000mm (THE), 7000mm (BRE) Leaf thickness 102mm <6m, 112mm >6m Track centres 145mm. Max door area (bottom rolling) 90m² (1-way) 180m² (bi-part)⁽¹⁾ Max door area (top hung) 50m² (1-way) 72m² (bi-part)⁽¹⁾ Panel U-value 0.40 W/m²/°C. Headroom required 250mm. Weight 25kg/m². Power supply 415V, 50Hz, TPN. Opening speed up to 0.4m/s. (folding 1-way). 0.8m/s (bi-parting).</p>
Performance	<p>Performance in accordance with BS EN 13241-1:2003.</p> <ul style="list-style-type: none"> Life expectancy – more than 20 years. Wind pressure⁽²⁾ - 0.7kN/m² (6m high door), 1.1kN/m² (5m high door), 1.7kN/m² (4m high door), 3.1kN/m² (3m high door). <p>Acoustic performance of the panel – Average weighted SRI, RW Index tested at 29dB. Overall door untested.</p>	
Panel Construction	<p>Panels are constructed from 1.6mm thick cold rolled galvanised dovetail channel frames with 5mm thick local reinforcement for hardware. The frame is covered on both sides with 0.7mm or 0.9mm thick galvanised steel sheets and pressure injected with CFC-free polyurethane foam to form an extremely strong, rigid, flat panel.</p>	
Leaf construction	<p>Leaves are constructed from 1, 2, 3 or 4 equal width panels fixed together top and bottom to 100 x 50 x 5 RHS box sections, which carry the running gear. All leaf fixings are hidden. Compressible EPDM gaskets are fitted between panels.</p>	
<p>Note (1) – Maximum width of 15000mm (1-way) or 30000mm (bi-part) for bottom-rolling electrically operated doors are subject to the maximum door area of 60m² (1-way) and 120m² (bi-part). Maximum width of 12000mm for top-hung electrically operated doors are subject to a maximum 2 tracks and 50m² (1-way) and 72m² (bi-part).</p> <p>Note (2) – Wind pressure capacities are based on panel strengths derived from physical tests carried out in the factory. Calculations given are for standard panel construction with 0.65mm skins, without cut-outs for windows. Greater wind pressures can be withstood using thicker door skins, and with additional panel reinforcement. For further advice on wind pressures please consult the manufacturer.</p>		

Seals	<p>Flexible rubber seals are fitted to all edges of the door, and between door leaves. All seals are purpose-designed EPDM extrusions, which press into, and blend seamlessly with the door panels. Each seal provides full finger trap safeguarding, and excellent protection against weather, dust and sand.</p> <p>On multiple track systems, pressings are fitted to the vertical edges of door leaves to provide a sealing surface for the adjacent leaf. Pressings are finished to match the door.</p> <p>A steel slam post, painted black is supplied with single leaf, single track doors only.</p>	
Door tracks and gear	<p><u>Top Hung</u> The top track is a 5 mm thick pressed steel 'C' section for direct sidewall mounting. Pendant hangers are heavy-duty fabrications, each with a Ø72 mm sealed bearing wheel, two Ø40 mm side thrust sealed bearing wheels and a Ø20 mm toughened steel shaft. Each pendant is vertically adjustable. End stops are fitted within the top tracks.</p> <p>The bottom guide channel is a 3 mm thick galvanised steel pressing with built in threshold and chamfered edges. Bottom guides are Ø35 mm nylon rollers running on Ø16 mm stainless steel shafts. Heavy-duty buffer stops are fitted at the far ends of bottom tracks.</p> <p><u>Bottom Rolling</u> The top guide track is purpose designed 3mm pressed galvanised 80 x 40 mm C track fabricated into a support tray to fix directly to the opening structure. Each leaf is fitted with a pair of top guide rollers, which are 72 mmØ x 30 mm nylatron guide wheels running on 20mmØ steel shafts, and fitted directly to the top beam. End stops are fitted within the top tracks. The top track system is able to accommodate +-40 mm vertical deflection within the support structure.</p> <p>The bottom track is a 16 mm wide bright mild steel bar mounted on steel fishplates for bolting directly into the floor chase. Each leaf is fitted with a pair of bottom wheels, which are Ø120 mm machined hardened steel rollers mounted within the bottom beam and fitted with sealed for life, maintenance free bearings. Heavy-duty buffer stops are fitted at the end of bottom tracks.</p>	
Installation / mounting	<p>Internally mounted doors recommended.</p> <p>Externally mounted doors should be protected with a track canopy.</p> <p>Canopies are not provided as standard equipment.</p>	<p>Top-hung - Internally mounted doors recommended. Externally mounted doors should be protected with a track canopy and drives will be internally mounted.</p> <p>Bottom-rolling - Externally mounted doors are not available.</p>
Sheaving System	<p>Double and multiple track configurations can be fitted with an internally mounted cable sheaving system, which links the leading (Drive) leaf to each of the trailing (Idler) leaves, so that during operation, all leaves move at differential speeds and reach the fully open and closed positions at the same time.</p>	<p>Standard for double and multiple track doors.</p>
Rhino-SI standard details and available options		
Finish	<p><u>Standard</u> Outside face - choice of 8 stock colours: Corus LG Plastisol in Poppy Red, Solent Blue, Ocean Blue⁽³⁾, Olive Green⁽³⁾, Goosewing Grey, Merlin Grey⁽³⁾ and White, or HPS200 Ultra in Sirius Metallic Silver. Inside face - LG Plastisol in White. Top and bottom RHS's beams to be grit blast, powder coated in 60µ zinc primer and powder coated in standard BS / RAL colour to match door colour.</p> <p><u>Option 1</u> Outside faces of panels are polyester powder coated in a choice of 40 stock RAL colours. Inside face in LG Plastisol in White. All hinges and drop bolt sleeves are black polyester powder coated in RAL 9005(M).</p> <p><u>Option 2</u> Inside and outside faces of panels are polyester powder coated in a choice of 40 stock RAL colours⁽³⁾. All hinges and drop bolt sleeves are black polyester powder coated in RAL 9005(M).</p>	
<p>Note (3) – Dark colours. It is recommended that any door panel, which is exposed to direct sun, i.e., East, South or West elevations, should be finished in a lighter colour. The insulation properties of the panel are so good that, if darker colours are used, the surface temperature of the panel can become unbearably hot, and the outer skin may occasionally bubble or ripple due to tiny air pockets within the panel. Taller panels may temporarily bow slightly until the temperature falls. This phenomenon is purely aesthetic and does not affect the structural integrity of the door. For further advice on colour selection please consult the manufacturer.</p>		

<p>Vision Panels</p>	<p><u>Standard</u> - None fitted.</p> <p><u>Option 1</u> Black thermoplastic 'snap-lock' window with integral double-glazed units (2.5~15~2.5) SAN RS UV (scratch and UV resistant) outside, PMMA UV inside. Overall frame size 770mm x 430mm. ⁽⁴⁾</p> <p><u>Option 2</u> Thermally broken aluminium window frame with one-piece inner liner tray. Window units are double glazed (4~20~4), argon filled, low E toughened glass. Frames are polyester powder coated in matt black to RAL 9005(M), fully sealed, and available in a choice of frame sizes as follows: 400mm x 600mm, 600mm x 600mm, 400mm x 1200mm, 600mm x 1200mm.</p>	
<p>Wicket Door</p>	<p><u>Standard</u> None fitted.</p> <p><u>Option 1</u> Lever furniture. Wicket door opens outwards. Hardware comprises a Briton 5520 mortise sash lock, 25mm low-profile anodised aluminium lever handles, external Europrofile cylinder with internal thumb turn, 1½ pairs of stainless steel butt hinges and a hidden door limiting stay. 85mm high step with 40mm wide aluminium threshold strip.</p> <p><u>Option 2</u> Emergency escape furniture. Wicket door opens outwards. Hardware comprises a Briton 379 panic bar, external override cylinder and finger latch, 1½ pairs stainless steel butt-hinges and a hidden overhead door limiting stay. 85mm high step with 40mm wide aluminium threshold strip.</p>	
<p>Locking and Handles</p>	<p><u>Single leaf area ≤12m²</u> Each leaf fitted internally with a drop bolt and a pair of black thermoplastic easy-grip pull handles.</p> <p><u>Single leaf area >12m²</u> Each leaf fitted internally with a waist height lever handle, which engages a 30 x 10 mm steel bar into a socket in the bottom track, and a pair of black thermoplastic easy-grip pull handles.</p>	<p><u>Single track doors</u> Each leaf fitted internally with a pair of black thermoplastic easy-grip pull handles.</p> <p><u>Multiple track doors</u> Each Drive leaf fitted internally with a pair of black thermoplastic easy-grip pull handles.</p> <p>Drive motors automatically locks the door in the closed position.</p>
<p>Rhino-SI standard details (electrically operated doors only)</p>		
<p>Drive System (top-hung)</p>	<p>A GfA 91RDU or Safedrive Fi digitally controlled variable speed drive motor operates the door. The motor is mounted at the end of the top track and is connected to the leading edge pendant hanger(s) via a continuous overhead drive chain. The folding action of the leaves is achieved via a built in throw out track arrangement fixed to the top track.</p> <p>A TS971 digital control system featuring digital limits set from ground level, variable speed opening and closing, slow-down on opening and closing, cycle counter and door status / fault display is supplied as standard. Open / close / stop push buttons are mounted on the control panel lid.</p> <p>Larger bi-parting doors (>50m²) are fitted with two motors and two control panels. Each motor and control panel will operate one door half independently of the other. Please specify if simultaneous operation is required.</p> <p>Drive motors are fitted with low-level haul chains for instant manual operation in the event of power failure.</p> <p>Drive motors and control panels are pre-wired with a 3m, 5m or 7m SWA cable, and fitted with a 5-pin euro-socket to plug directly into a 5-pin socket.</p>	
<p>Note (4) – Due to the hydroscopic nature of the SAN sheets, used in 'Option 1' Vision Panels, moisture condensation and possible water accumulation may develop within double glazed units during certain atmospheric conditions. These effects should reverse during a change of weather conditions; however, water leakage through the window unit will not occur.</p>		

<p>Drive System (bottom-rolling)</p>	<p>A suitably rated SEW Eurodrive motor operates the door. The motor is enclosed within a 400mm W x 330mm D x 1350mm H drive mullion box mounted on the inside face of the Drive leaf, and drives along an Ø8mm steel cable set in a secondary floor track. Power is fed to the Drive leaf via a high level catenary cable system.</p> <p>An inverter control panel, with soft start / stop is mounted within the drive mullion, and is fully wired to the motor. Parameters are factory set. Proximity sensors mounted in the base of the drive mullion automatically slow down and stop the door in the fully open and closed positions.</p> <p>An open-close-stop push button is mounted on the drive mullion.</p> <p>Bi-parting doors are fitted with two drive mullions. Each door half is independently operated.</p> <p>A hand-winding handle is provided to enable each door half door to be moved by hand.</p>
<p>Control Logic (top-hung)</p>	<p><u>Standard</u> Deadman - continuous push to open, continuous push to close. This logic must be used unless a Safety Edge is installed.</p> <p><u>Option 1</u> Semi-automatic - Single push to open, Single push to close. Stop button stops door. ⁽⁵⁾</p> <p><u>Option 2</u> Automatic – Single push to open, automatic closing after pre-set pause time (between 1 – 240 seconds). Stop button stops, and holds doors.⁽⁵⁾</p>
<p>Control Logic (bottom-rolling)</p>	<p><u>Standard</u> Deadman - continuous push to open, continuous push to close. This logic must be used unless a Safety Edge is installed.</p> <p><u>Option 1</u> Semi-automatic - Single push to open, Single push to close. Stop button stops door. ⁽⁵⁾ <i>(not recommended for doors >12m wide)</i></p> <p><u>Option 2</u> Automatic – Single push to open, automatic closing after pre-set pause time (between 1 – 240 seconds). Stop button stops, and holds doors.⁽⁵⁾ <i>(not recommended for doors >12m wide)</i></p>
<p>Rhino-SI available options (electrically operated doors only)</p>	
<p>Safety Features</p>	<p><u>Safety Edges</u> A full height wireless opto-electronic safety edge is mounted within the leading edge seal(s) of the door. An impact on the edge during closing will automatically stop and re-open the door. The safety edge is continuously monitored so the door cannot close automatically in the event of damage or failure of the edge. A low-battery warning audible alarm will advise when the battery needs to be replaced.</p> <p><u>Photocells (max 20m W)</u> A FAAC XP15W send / receive photocell is fitted across the opening. The receiver unit is fitted with a long-life battery to avoid hard wiring. Photocells can be fitted for closing safety, opening safety, or a combination of opening and closing. If a closing safety beam is broken during the closing cycle, the door will automatically stop and re-open. If an opening safety beam is broken during the opening cycle, the door will automatically stop.</p> <p><u>Traffic Lights</u> A red and green 24V DC LED traffic light unit is fitted. The unit is sized 370mm x 190mm with 24 LEDs to each light. Sequence of operation is Red light on when door closed or part closed, Green light on when door fully open.</p> <p><u>Photocell / Traffic Light Posts (max 12m W)</u> A pair of 100x100 RHS right angle steel posts are fitted at the far end of the bottom tracks, and on the inside of the open door to mount an internal photocell and / or traffic lights. Posts are painted yellow for maximum visibility.</p>

Note (5) – Control logic. In accordance with BS EN 12453:2001, a safety edge and photocell, or safety edge must be installed for semi-automatic (Option 1) or automatic closing (Option 2).

Additional Controls

Push Button – Additional Open / Close / Captive Stop push button unit.

Key switch – Sprung return key switch in separate enclosure for operation of the door by keyholders only. For internal or external use.

Digi-key – Bewator K42 stainless steel code lock digi-key pad for operation of the door by authorised persons only. For internal or external use.

Radio Control – 868MHz radio control system for remote operation of the door from a vehicle or control room. FAAC Plug-in radio receiver supplied with 1 twin channel transmitter. Additional transmitters available for multi-user systems.

Movement Sensor – A Falcon radar movement sensor is mounted at high level, which will open the door on detection approaching traffic, or close the door on detection of retreating traffic. Using microwave technology, the sensor is adjustable so as to ignore pedestrians, or parallel traffic. *Please note: maximum opening height is 5m for microwave sensors. Additional sensors may be required for openings >5m wide.*