

MODEL S90ZN



PRO
DOOR
SYSTEMS

THERMAL INSULATED ROLLER SHUTTER

$U = 4.8 \text{ W (m}^2\cdot\text{K)}$ 



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Certificate

Certificate no: 010-044426 dated 17.08.2021

Performance Characteristics:

Heat transmission : U-value 4,8 W (m².K) according to EN ISO 12428:2013 (complete door for dimension = 3000x4000 mm)

Accreditations

EN ISO 10211: 2017– Thermal Bridges in building Construction

Ideal Uses

Loading Bays, Warehouses, Factories, Hospitals, Large commercial buildings, Boiler and Turbine Halls, Airports, Canteens, Restaurants, Recording and TV Studios.

TECHNICAL SPECIFICATIONS

Profile/Curtain

Profiles/curtains made of galvanized interlocking roll-formed steel, double-skinned, sheet thickness 0,90 mm (0,45 + 0,45 mm), 96 mm curve slat with polyurethane foam insulating core.

Side Guides Rail

Side guides rails made of galvanized steel profile, 120x70 mm dimension and 2,00 mm thickness made by press break bending method with rubber strips for sealing with brush for quiet movement and less vibration at the both sides. it can fix to face of wall and between Jamb (U type) based on construction structure. Side guides can be mounted to the interior or exterior side of the wall or the jamb. Side guide assemblies bolt to fixing angles or frame steel and support the entire weight of the shutter.

Endplates

Manufactured from galvanized steel of adequate thickness relative to door size and supplied with steel plates for fixing to the structure. Bolt to side guides assembly and support shaft and curtain and prepared to accept the coil casing /hood. Securely bolted to steel angles which are drilled for attachment to the structure at the correct centres.

Coil Casing / Hood opsiyonel

Casing / hood made of galvanised steel and U or L type profile cover fastened to the lintel into which the top of the door engages for coiled shutter and motor providing an effective seal against heat transmission.

Finish

ProDoor Systems shutters are finished in standard galvanized steel. Polyester powder coat in a range of standard RAL color are available on request.

Control Panel

Surface-mounted type control unite in a metal box with integrated keypad up-stop-down on the drive side with hold to run button at handy height. It is designed in accordance with smart building automation systems. The technical specifications of the control panels are also equipped according to the motor powers to be used. The control panel has diode overload protection and diode break protection feature. It has the features of remote on-off, remote monitoring system, audio-visual sound signal when the door is working and battery back-up facility where maintained power is required according to the dimensions in the control panel.

Options

• Key-switch control, Remote control, Loop detectors, Photocells, Timer closing, Other colors and Integral frame. • For Integral frame, in order to provide the desired heat transmission, the heat value of the existing wall and the area where the door will be made should be better than the desired heat value at the door. The internal frame profiles, where the door will be mounted, need to be backed up with high performance insulation materials in a way that will provide the heat values after the assembly.

Technical support will be provided to the construction site after order confirmation.

Operation / Drive

Electric Drive 3Ph 380V / 50 Hz, protection class IP54, directly coupled to the winding shaft , thermal motor protection in the motor windings , upper and lower limit switch for the control and main current circuit. Emergency hand-crack or hand -chain with safety contact. Wide range of drive torques is available based on curtain weight. Drive comes with push button control device. Usually connect to a fire control panel and integrated with the building alarm system, so that the shutter descends under control of the motor in the event of a fire. Also specially designed in accordance with smart building automation systems.

Bottom Rail

Bottom rail made of extruded aluminium profile with filled polyurethane foam and fitted with an extruded PVC bottom seal.

Roller / Barrel

The roller / barrel comprises a seamless steel tube of sufficient diameter and thickness to avoid deflection. Steel shafts and discs are inserted at each end and the whole assembly is supported in bearings mounted on each endplate.

TEST RESULTS

ProDoor Systems NS-90 Roller shutter 3,0 x 4,0 m thermal

No.	Thermal Bond	A _p (m²)	U _p (W/m².K)	U _{Joint} (m)	Ψ _{Joint} (W/m.K)	(Ψ _{Joint} .L _{Joint})	U _D (W/m².K)
1	UP	12	4,3	3,0	0,166	0,498	4,8
2	SIDE			8,0	0,345	2,76	
3	BOTTOM			3,0	0,981	2,943	

$$U_D = \{ (\sum (A_p \cdot U_p) + \sum (\Psi_{Joint} \cdot L_{Joint})) / \sum A_p \} + \Delta U_{tb} + h_c$$

$$U_D = \{ ((12 \times 4,3) + 6,2) / 12 \} + 0,0 = 4,82 \div 4,8 \text{ W/m}^2.\text{K}$$

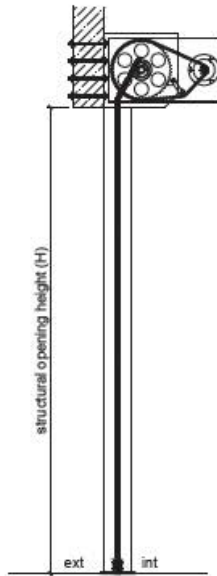
$$\sum (\Psi_{Joint} \cdot L_{Joint}) = 6,20 \text{ W/K}$$

Maximum Sizes 12,000 mm wide x 8,000 mm high

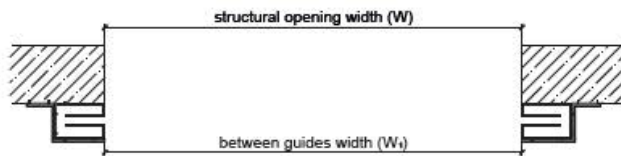
(Please contact us to discuss if there is a requirement beyond these dimensions)

WALL SURFACE INSTALLATION

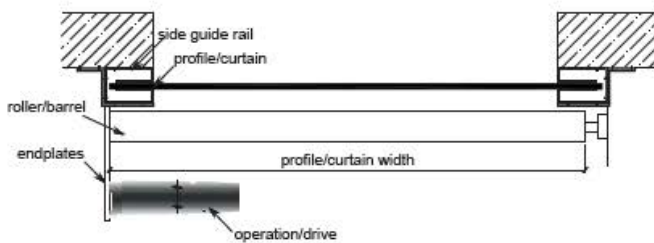
UNDER THE LINTEL INSTALLATION



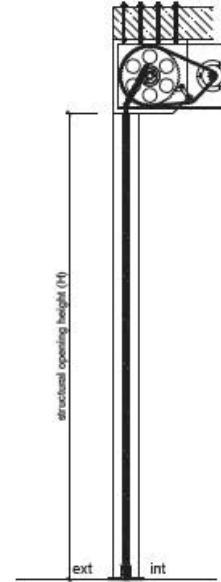
Section



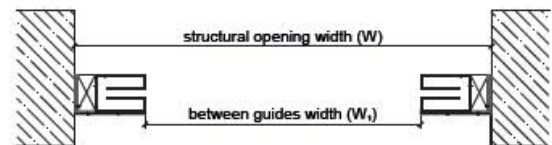
Plan at Guide Level



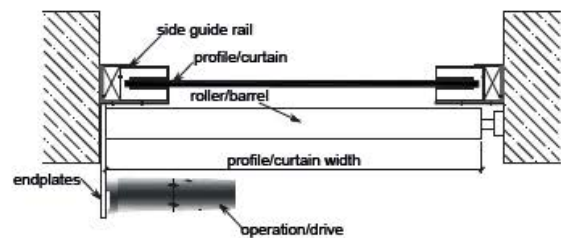
Plan at Roller/Barrel Level



Section



Plan at Guide Level



Plan at Roller/Barrel Level

