

Certificate of Constancy of Performance

0359-CPR-00362



Appendix to Certificate of Constancy of Performance 0359-CPR-00362

Model Ref: "NHN" PDC-103W

Product: Controlled door closing devices – concealed floor spring, as covered by the scope of this standard.

Intended use: On fire and smoke compartmentation doors (to fulfil the self-closing requirements of such doors)

Table A1. Product Description for door closer (concealed floor spring) from Kenwa Co. Ltd.,

Model No.	Installation	Latch Control	Backcheck	Delayed closing	Max. Opening Angle	Zero position
"NHN" PDC-103W	Floor mounted	Yes	No	No	150°	Yes

Table A2. Product classification in accordance with EN 1154:1996/A1:2002/AC:2006

D1	D2	D3	D4	D5	D6
3	8	3	1	1	3

Where the Digits (D) are described as follows:

- D1 Category of use
- D2 Durability
- D3 Test door mass
- D4 Suitability for use on fire/smoke compartmentation doors
- D5 Safety
- D6 Corrosion resistance

Notes.

1. The door closers are to be installed in accordance with the installation instructions for the product(s).
2. This certificate of constancy of performance refers to the requirements for the product(s) described under the CPR. There may be other European Directives, where requirements need to be declared before CE marking can be affixed by the manufacturer or their authorised representative.

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Issue 1

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Table A3. EN 1154 Annex ZA Related Information for Kenwa Co Ltd., “NHN” PDC-103W door closer (concealed floor spring)

Requirement/characteristic	Standard clause	Result summary				
Self-closing	General (5.2.1)	Grade 3 (closing doors from at least 150° open)				
	Closing moment (5.2.3) - 5 000 test cycles - 500 000 test cycles	Door Closer Power Size 3 (concealed door closer, floor spring)				
		Between 0° and 4°		Between 88° and 92°	Any other angle of opening	
		Nm min.	Nm max.	Nm min.	Nm min.	
		18	< 26	6	4	
	Opening moment (5.2.4) and Efficiency (5.2.5) - 5 000 test cycle - 500 000 test cycles	Door Closer Power Size 3 (concealed door closer, floor spring)				
		Opening moment between 0° and 60°		Efficiency (%)		
		47 Nm max.		More than 55%		
	Closing time (5.2.6) - 5 000 cycles - 500 000 cycles	The closing time from an opening angle of 90° was capable of adjustment to 3 s or less, and 20 s or more				
		After 500 000 test cycles, the closing time set at 5 000 test cycles did not increase by more than 100%, or decrease by more than 30%.				
	Angles of operation (5.2.7)	Grade 3, Closing doors from 150° open				
		Minimum angle of control from 135° to closed position				
	Overload performance (5.2.8)	Power Size 3: 21 kg (10 cycles, 5 cycles each side) completed				
	Temperature dependence (5.2.9) - closing time	Closing time (90° open to fully closed) set at 5 s at 20°C).				
		-15°C		40°C		
Not less than 3 s or more than 25 s						
Fluid leakage (5.2.10)	No leakage throughout tests					
Damage (5.2.11)	No damage observed/reported					
Latch control (5.2.12)	Latch control effective within range of 0° to 15°					
Backcheck (5.2.13) – Arresting angle	Not applicable					
Delayed closing (5.2.14)	Not applicable					

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Requirement/ characteristic	Standard clause	Result summary
Self-closing (continued)	Adjustable closing force (5.2.15)	Not applicable
	Zero position (5.2.18)	Free play (Initial) < 3mm
		After 500 000 cycles free play < 6mm
Fire/smoke door suitability (5.2.18)	Grade 1, Refer Table A5.	
Durability of self- closing	Durability (5.2.2)	<i>500,000 test cycles (250 000 in each direction)</i>
	Corrosion resistance (5.2.17.1 and 5.2.17.2),	Grade 3, Neutral Salt Spray (NSS) for 96 hours
		No visible corrosion on external surfaces of door closer
		Blistering on external surfaces of door closer, not greater than density 2.
No single blister greater than size 3 (EN ISO 4628-2)		
Dangerous substances	See Clause ZA.3	No dangerous substances declared for this product in the intended use

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Table A4. Mechanical test reports & product classification for door closer (concealed floor spring) “NHN” PDC-103W from Kenwa Co. Ltd..

Test Report	Model tested	Product Classification					
		3	8	3	- ^a	1	3
150227031GZU-004	“NHN” PDC-103W	3	8	3	- ^a	1	3
Notes.							
a. Digit 4 becomes “1” after successful outcome of fire resistance test (refer to Table A5).							

Table A5. Fire test report for door closer (concealed floor spring) “NHN” PDC-103W from Kenwa Co. Ltd..

Test Report	Model Tested	Test Method	Fire resistance	
			Integrity (E)	Insulation (I)
150227031GZU-004	“NHN” PDC-103W	EN 1634-1:2008	40 minutes	40 minutes
Fire Door Test Information				
Door material:	Timber (wooden) composite door (fully insulated)			
Door configuration:	Double Action Single Door (DASD)			
Door orientation:	Door tested opening into the furnace			
Door leaf dimensions:	Height (mm)	Width (mm)	Thickness (mm)	
	2045	732	54	
Frame dimensions: (nominal size)	Height (mm)	2100		
	Width (mm)	800		
Hardware	Door closer (floor spring)	Standard Installation Model: “NHN” PDC-103W		
		Bedding material: intumescent strip (THERM-A-STRIP, 2mm thick)		

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