POLITECNICO MILANO 1863

Laboratorio Prove Materiali - NB 1777 CPR

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO

PRD N° 0317

Notified Body 1777 - CPR

CERTIFICATE OF CONSTANCY OF PERFORMANCE 1777 - CPR - 21.01

In compliance with Regulation (EU) No. 305/2011 of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

Rigid Connection Devices

with trade name

ST

Temporary (dynamic) connection devices, to use in buildings and civil engineering works where requirements on individual devices are critical,

placed on the market under the name or trade mark of

BEARINGS AND JOINTS SRL

Corso Francia, 96 – 10143 Torino (TO) - Italy

and produced in the manufacturing plant

BEARINGS AND JOINTS SRL

Via Caossea, 61 – 35038 Torreglia (PD) - Italy

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard

EN 15129:2009

under System 1 for the performance set out in this certificate are applied and that the factory production control conducted by the manufacturer is assessed to ensure the

constancy of performance of the construction product.

This certificate was first issued on 29 January 2021 and will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

The main characteristics of the product are reported in the Annex to this certificate.

The present Certificate cancels and replaces the previous revision no. 0 dated 29 January 2021.

Milan, 17 January 2024

Revision no. 1

Firmato digitalmente
da:CARLO POGGI
Organizzazione:
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Prof. Ing. Carlo Poggi
Head of Certification Body

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Annex to Certificate of Constancy of Performance no. 1777 – CPR – 21.01

Rigid Connection Devices

with trade name

ST

product families

Description of the product

ST product families comprise rigid connection devices that provide for an output force in either tension or compression that complies with the design displacement requirements when the activation velocity is exceeded. The devices are manufactured from ferrous materials and the active surface of the piston rod is nickel plated. The devices are classified as Temporary Connection Devices (also referred to as Shock Transmission Units) in accordance with Table 1 of hEN 15129:2009.

Performance characteristics

ST products meet the following requirements in accordance with hEN 15129:2009:

- pressure test, clause 5.3.4.2
- low velocity test, clause 5.3.4.3
- seal wear test, clause 5.3.4.4
- impulsive load test, clause 5.3.4.5
- overload test, for strength to damage and/or leakage, clause 5.3.4.6
- cyclic load test, for a duration period of 15 seconds, clause 5.3.4.7

ST devices are presented in the product families described below.

ST

Description of the product

ST product family comprise rigid connection devices that provide for an output force in either tension or compression that complies with the design displacement requirements when the activation velocity is exceeded. The devices are manufactured from ferrous materials and the active surface of the piston rod is nickel plated. The devices are classified as Temporary Connection Devices (also referred to as Shock Transmission Units) in accordance with Table 1 of hEN 15129:2009.

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The viscous fluid is Fluid A[1]

The temperature range is from +10° C to +40° C.

The intended use is in buildings and civil engineering works.

[1] appropriate documents reporting the identification characteristics of the fluid, active surfaces and outsourced manufacturing processes are deposited at the Notified Body involved in the attestation of constancy of performance procedure.

Type, identification and use

ST product types are evaluated on the basis of the results reported below

ST 250-200 *load capacity 200 kN* *stroke ±100 mm*		
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	250	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2020/2717

ST 400-200 *load capacity 400 kN* *stroke ±100 mm*		
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	400	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2020/2718

ST 625-200 *load capacity 625 kN* *stroke ±100 mm*		
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	625	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2022/3100

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ST product types and sizes covered by the present Certificate of Constancy of Performance are manufactured in accordance with the same design and with the same parametric technical solutions.

The dimensions of the products covered by the present Certificate of Constancy of Performance can vary in the dimensional range defined below in accordance with clause 5.3.4.1 of hEN 15129.

Load Capacity	*Maximum Stroke*	*Overload relief system*	*Test Report*
200 to 300 kN	up to 240 mm	No	2020/2717
320 to 480 kN	up to 240 mm	No	2020/2718
500 to 750 kN	up to 240 mm	No	2022/3100

ST-V

Description of the product

ST-V product family comprise rigid connection devices that provide for an output force in either tension or compression that complies with the design displacement requirements when the activation velocity is exceeded. The devices are manufactured from ferrous materials and the active surface of the piston rod is nickel plated. The devices are classified as Temporary Connection Devices (also referred to as Shock Transmission Units) in accordance with Table 1 of hEN 15129:2009. The devices are equipped with an overload relief system.

The viscous fluid is Fluid A[1]

The temperature range is from +10° C to +40° C.

The intended use is in buildings and civil engineering works.

[1] appropriate documents reporting the identification characteristics of the fluid, active surfaces and outsourced manufacturing processes are deposited at the Notified Body involved in the attestation of constancy of performance procedure.

Type, identification and use

ST-V product types are evaluated on the basis of the results reported below

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ST 625-200-V *load capacity 625 kN*	*stroke ±100 mm*	
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	625	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2020/2719

ST 950-200-V *load capacity 950 kN*	*stroke ±100 mm*	
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	950	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2020/2720

ST 1450-200-V *load capacity 1450 kN*	*stroke ±100 mm*	
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	1450	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2020/2721

ST 2100-200-V *load capacity 2100 kN*	*stroke ±100 mm*	
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	2100	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2020/2940

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ST-V product types and sizes covered by the present Certificate of Constancy of Performance are manufactured in accordance with the same design and with the same parametric technical solutions.

The dimensions of the products covered by the present Certificate of Constancy of Performance can vary in the dimensional range defined below in accordance with clause 5.3.4.1 of hEN 15129.

Load Capacity	*Maximum Stroke*	*Overload relief system*	*Test Report*
500 to 750 kN	up to 240 mm	Yes	2020/2719
760 to 1140 kN	up to 240 mm	Yes	2020/2720
1160 to 1740 kN	up to 240 mm	Yes	2020/2721
1680 to 2520 kN	up to 240 mm	Yes	2020/2940

ST-A

Description of the product

ST-A product family comprise rigid connection devices that provide for an output force in either tension or compression that complies with the design displacement requirements when the activation velocity is exceeded. The devices are manufactured from ferrous materials and the active surface of the piston rod is nickel plated. The devices are classified as Temporary Connection Devices (also referred to as Shock Transmission Units) in accordance with Table 1 of hEN 15129:2009. The devices are equipped with an external accumulator.

The viscous fluid is Fluid A[1]

The temperature range is from -25° C to +50° C.

The intended use is in buildings and civil engineering works.

[1] appropriate documents reporting the identification characteristics of the fluid, active surfaces and outsourced manufacturing processes are deposited at the Notified Body involved in the attestation of constancy of performance procedure.

Type, identification and use

ST-A product types are evaluated on the basis of the results reported below

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ST 250-200-A *load capacity 200 kN*	*stroke ±100 mm*	
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	250	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2022/2401

ST 625-200-A *load capacity 625 kN*	*stroke ±100 mm*	
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	625	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2022/2402

ST-A product types and sizes covered by the present Certificate of Constancy of Performance are manufactured in accordance with the same design and with the same parametric technical solutions.

The dimensions of the products covered by the present Certificate of Constancy of Performance can vary in the dimensional range defined below in accordance with clause 5.3.4.1 of hEN 15129.

Load Capacity	*Maximum Stroke*	*Overload relief system*	*Test Report*
200 to 300 kN	up to 240 mm	No	2022/2401
500 to 750 kN	up to 240 mm	No	2022/2402

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ST-A-V

Description of the product

ST-A-V product family comprise rigid connection devices that provide for an output force in either tension or compression that complies with the design displacement requirements when the activation velocity is exceeded. The devices are manufactured from ferrous materials and the active surface of the piston rod is nickel plated. The devices are classified as Temporary Connection Devices (also referred to as Shock Transmission Units) in accordance with Table 1 of hEN 15129:2009. The devices are equipped with an overload relief system and with an external accumulator.

The viscous fluid is Fluid A[1]

The temperature range is from -25° C to +50° C.

The intended use is in buildings and civil engineering works.

[1] appropriate documents reporting the identification characteristics of the fluid, active surfaces and outsourced manufacturing processes are deposited at the Notified Body involved in the attestation of constancy of performance procedure.

Type, identification and use

ST-A-V product types are evaluated on the basis of the results reported below

ST 625-200-A-V *load capacity 625 kN* *stroke ±100 mm*		
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	625	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2022/2396

ST 1000-200-A-V *load capacity 1000 kN* *stroke ±100 mm*		
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	1000	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2022/2397

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ST 1500-200-A-V *load capacity 1500 kN* *stroke ±100 mm*		
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	1500	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2022/2398

ST 2100-200-A-V *load capacity 2100 kN* *stroke ±100 mm*		
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	2100	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±100	mm
Durability	Conforming	==

According to Test Report no. 2022/2399

ST 5000-100-A-V *load capacity 2100 kN* *stroke ±50 mm*		
Essential characteristics	*Design value*	*Unit*
Resistance to seismic loads	5000	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±50	mm
Durability	Conforming	==

According to Test Report no. 2022/2400

ST-A-V product types and sizes covered by the present Certificate of Constancy of Performance are manufactured in accordance with the same design and with the same parametric technical solutions.

The dimensions of the products covered by the present Certificate of Constancy of Performance can vary in the dimensional range defined below in accordance with clause 5.3.4.1 of hEN 15129.

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Load Capacity	*Maximum Stroke*	*Overload relief system*	*Test Report*
500 to 750 kN	up to 240 mm	Yes	2022/2396
800 to 1200 kN	up to 240 mm	Yes	2022/2397
1200 to 1800 kN	up to 240 mm	Yes	2022/2398
1680 to 2520 kN	up to 240 mm	Yes	2022/2399
4000 to 6000 kN	up to 120 mm	Yes	2022/2400

Milan, 17 January 2024

Prof. Ing. Carlo Poggi
Head of Certification Body

Firmato digitalmente
da:CARLO POGGI
Organizzazione:
POLITECNICO DI
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The present Annex is only valid together with the Certificate of Constancy of Performance no. 1777 – CPR – 21.01 rev.1 dated 17 January 2024

The present Annex cancels and replaces the previous Annex rev. 1 dated 6 April 2023

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