



POLITECNICO
MILANO 1863

Laboratorio Prove Materiali - NB 1777 CPR

Notified Body 1777 - CPR

CERTIFICATE OF CONSTANCY OF PERFORMANCE
1777 - CPR - 15.01

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

Reston®STU

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

Mageba S.A.

Solistrasse 68, 8180 Bülach, Switzerland

and produced in the manufacturing plant

Factory P

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 5 February 2015 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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.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.

Milan, 28 September 2022

Revision n. 1

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PRD N° 0317

**Annex to Certificate of Constancy of Performance
no. 1777 – CPR – 15.01**

Rigid Connection Devices

with trade name

Reston®STU

product families

Reston®STU 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 hard chromium 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 intended use is in buildings and civil engineering works.

Mageba Reston®STU devices are presented in the product families described below.

Reston STU

Description of the product

Reston®STU is a rigid connection device that provides for an output force in either tension or compression that complies with the design displacement requirements when the activation velocity is exceeded. The device is manufactured from ferrous materials and the active surface of the piston rod is hard chromium plated. The device is classified as a Temporary Connection Device (also referred to as Shock Transmission Unit) in accordance with Table 1 of hEN 15129:2009.

The viscous fluid is Fluid A and it is in accordance with clause 5.3.2.4 of hEN 15129:2009.¹

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

The active surfaces are in accordance with clause 5.3.2.3 of hEN 15129:2009.¹

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.



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Performance characteristics

Reston®STU devices meet the following requirements in accordance to 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

Type, identification and use

Reston®STU product type is evaluated on the basis of the results reported below

Reston®STU 500/60		
<i>load capacity 500 kN</i>		<i>stroke ±30 mm</i>
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	500	kN
Rotation capability	±0.052	rad
Horizontal distortion capability	±30	mm
Durability	Conforming	==

According to Test Report no. 2014/1924

Reston®STU 750/100		
<i>load capacity 750 kN</i>		<i>stroke ±50 mm</i>
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	750	kN
Rotation capability	±0.052	rad
Horizontal distortion capability	±50	mm
Durability	Conforming	==

According to Test Report no. 2017/2155

Reston®STU 1250/100		
<i>load capacity 1250 kN</i>		<i>stroke ±50 mm</i>
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	1250	kN
Rotation capability	±0.052	rad
Horizontal distortion capability	±50	mm
Durability	Conforming	==

According to Test Report no. 2017/2156

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Reston@STU 1600/160		
<i>load capacity 1600 kN</i>		<i>stroke ±80 mm</i>
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	1600	kN
Rotation capability	±0.052	rad
Horizontal distortion capability	±80	mm
Durability	Conforming	==

According to Test Report no. 2015/1268

Reston@STU 2000/100		
<i>load capacity 2000 kN</i>		<i>stroke ±50 mm</i>
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	2000	kN
Rotation capability	±0.052	rad
Horizontal distortion capability	±50	mm
Durability	Conforming	==

According to Test Report no. 2022/2403

Reston@STU 3000/320		
<i>load capacity 3000 kN</i>		<i>stroke ±160 mm</i>
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	3000	kN
Rotation capability	±0.052	rad
Horizontal distortion capability	±160	mm
Durability	Conforming	==

According to Test Report no. 2014/2722

Reston@STU product type (types and sizes) are manufactured in accordance with the same design and with the same parametric technical solutions.

The used materials are the same for all types and sizes.

The dimensions of the products can vary in the dimensional range defined below in accordance with clause 5.3.4.1 of hEN 15129:2009.

<i>Load Capacity</i>	<i>Maximum Stroke</i>	<i>Test Report</i>
400 to 600 kN	Up to ±36 mm	2014/1924
600 to 900 kN	Up to ±60 mm	2017/2155
1000 to 1500 kN	Up to ±60 mm	2017/2156
1280 to 1920 kN	Up to ±96 mm	2015/1268
1600 to 2400 kN	Up to ±192 mm	2022/2403
2400 to 3600 kN	Up to ±192 mm	2014/2722

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Reston®STU with overload system

Description of the product

Reston®STU with overload system is a rigid connection device that provides for an output force in either tension or compression that complies with the design displacement requirements when the activation velocity is exceeded. The device is manufactured from ferrous materials and the active surface of the piston rod is hard chromium plated. The device is classified as a Temporary Connection Device (also referred to as Shock Transmission Unit) in accordance with Table 1 of hEN 15129:2009.

The device is equipped with an overload system preventing an excessive pressure build-up.

The viscous fluid is Fluid A and it is in accordance with clause 5.3.2.4 of hEN 15129:2009.¹

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

The active surfaces are in accordance with clause 5.3.2.3 of hEN 15129:2009.¹

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.

Performance characteristics

Reston®STU with overload system devices meet the following requirements in accordance to 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

Type, identification and use

Reston®STU with overload system product type is evaluated on the basis of the results reported below

Reston®STU 4880/1074		
<i>load capacity 4880 kN</i>		<i>stroke ±537 mm</i>
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	4880	kN
Rotation capability	±0.052	rad
Horizontal distortion capability	±537	mm
Durability	Conforming	==

According to Test Report no. 2015/2028

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Reston®STU 5000/900		
<i>load capacity 5000 kN</i>		<i>stroke ±450 mm</i>
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	5000	kN
Rotation capability	±0.052	rad
Horizontal distortion capability	±450	mm
Durability	Conforming	==

According to Test Report no. 2018/1218

Reston®STU with overload system product type (types and sizes) are manufactured in accordance with the same design and with the same parametric technical solutions.

The used materials are the same for all types and sizes.

The dimensions of the products can vary in the dimensional range defined below in accordance with clause 5.3.4.1 of hEN 15129:2009.

<i>Load Capacity</i>	<i>Maximum Stroke</i>	<i>Test Report</i>
3904 to 5856 kN	Up to ±644.4 mm	2015/2028
4000 to 6000 kN	Up to ±540 mm	2018/1218

Reston®STU 125/118 and 360/120

Description of the product

Reston®STU 125/118 and 360/120 are 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 hard chromium 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 viscous fluid is Fluid A and it is in accordance with clause 5.3.2.4 of hEN 15129:2009.¹

The temperature range is from +20° C to +140° C.

The active surfaces are in accordance with clause 5.3.2.3 of hEN 15129:2009.¹

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.



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Performance characteristics

Reston®STU devices meet the following requirements in accordance to 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

Type, identification and use

Reston®STU 125/118 and 360/120 product types are evaluated on the basis of the results reported below

Reston®STU 125/118		
<i>load capacity 125 kN</i>	<i>stroke ±59 mm</i>	
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	125	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±59	mm
Durability	Conforming	==

According to Test Report no. 2023/2491

Reston®STU 360/120		
<i>load capacity 360 kN</i>	<i>stroke ±60 mm</i>	
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	360	kN
Rotation capability	±0.035	rad
Horizontal distortion capability	±60	mm
Durability	Conforming	==

According to Test Report no. 2023/1878



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Reston@STU 125/118 and 360/120 product types are manufactured in accordance with the same design and with the same parametric technical solutions.

The used materials are the same for all types and sizes.

The dimensions of the products can vary in the dimensional range defined below in accordance with clause 5.3.4.1 of hEN 15129:2009.

<i>Load Capacity</i>	<i>Maximum Stroke</i>	<i>Test Report</i>
100 to 150 kN	Up to ± 70.8 mm	2023/2491
288 to 432 kN	Up to ± 72 mm	2023/1878

Milan, 5 September 2023

Prof. Ing. Carlo Poggi
Head of Certification Body

**The present Annex is only valid together with the
Certificate of Constancy of Performance no. 1777 – CPR – 15.01
rev.1 dated 28 September 2022**

**The present Annex cancels and replaces the previous Annex rev. 3
dated 28 September 2022**

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