



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

Rigid Connection Devices

with trade name

Reston STU

product families

Reston STUs are rigid connection device 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 STUs consist 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*

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

The intended use is in buildings and civil engineering works.

* appropriate certificates reporting the identification characteristics of the fluid are deposited at the notified body involved in the attestation of conformity procedure

Performance characteristics

Reston STU 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

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</i> 500 kN	<i>stroke</i> ±30 mm	
<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</i> 750 kN	<i>stroke</i> ±50 mm	
<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</i> 1250 kN	<i>stroke</i> ±50 mm	
<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

Reston STU 1600/160		
<i>load capacity</i> 1600 kN	<i>stroke</i> ±80 mm	
<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 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 types 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 used materials are the same for all types and sizes.

The dimensions of the products covered by the 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.

<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
2400 to 3600 kN	Up to ±192 mm	2014/2722



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*

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

The intended use is in buildings and civil engineering works.

* appropriate certificates reporting the identification characteristics of the fluid are deposited at the notified body involved in the attestation of conformity procedure

Performance characteristics

Reston STU 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





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

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

The dimensions of the products covered by the 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.

<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

Milan, September 17, 2019

Prof. Ing. Carlo Poggi
Head of Certification Body

**This Annex is only valid together with the
Certificate of Constancy of Performance no. 1777 – CPR – 15.01
rev.0 dated February 05, 2015**

**The present Annex cancels and replaces the previous Annex rev. 1
dated March 03, 2016**

Certificate of Constancy of Performance no. 1777 – CPR – 15.01
Annex Rev.2 of 17 September 2019