

POLITECNICO DI MILANO



Laboratorio Prove Materiali - NB 1777 CPR

Notified Body 1777 – CPR

**CERTIFICATE OF CONSTANCY OF PERFORMANCE
1777 - CPR - 15.04**

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

CAMP

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

placed on the market under the name or trade mark of

Costruzioni Future Srl

Via dell'Industria, 59 - Erbusco (BS)

and produced in the manufacturing plant of

Effegi Systems Srl, Via Garibaldi, 9 - Isorella (BS).

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 15 June 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product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.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, 18 March 2019

Revision n. 2

Prof. Ing. Carlo Poggi
Head of Certification Body



**Annex to Certificate of Constancy of Performance
no. 1777 – CPR – 15.04**

Rigid Connection Devices

with trade name

CAMP

Description of the product

CAMP 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 -15° C to +45° 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 constancy of performance procedure

Metallic parts produced in the factories of:

EFFEGI SYSTEMS Srl, Isorella (BS) - Italy and

MAC POWER Srl, Spezzano di Fiorano (MO) - Italy

Hard chromium plating of active surface of the piston rod applied in the factories of:

CROTTI & TOGNAZZI Srl, Molinetto di Mazzano (BS) - Italy

MODERCROMO Srl, Bussero (MI) - Italy

CROMSTEEL ITALIA Srl, Agliana (PT) - Italy

NIMET Srl, Lazuri (DB) - Romania

Corrosion protection system applied in the factories of:

BODYCOTE TRATTAMENTI TERMICI Spa, Rodengo Saiano (BS) - Italy

NORD CHÉMIE Srl, Alfianello (MI) - Italy

STEEL BETTER Srl, Brescia (BS) - Italy

Factory Production Control tests are carried out in the laboratory of:

UNIVERSITÀ DEGLI STUDI DI BERGAMO - CONSTRUCTION MATERIALS TESTING LAB, Dalmine (BG) - Italy

Performance characteristics

CAMP 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

CAMP product type is evaluated on the basis of the results reported below

CAMP 110±25		
<i>load capacity 110 kN</i>	<i>stroke ±25 mm</i>	
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	110	kN
Rotation capability	±0.297	rad
Horizontal distortion capability	±25	mm
Durability	Conforming	==

According to Test Report no. 2015/0912

CAMP 240±25		
<i>load capacity 240 kN</i>	<i>stroke ±25 mm</i>	
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	240	kN
Rotation capability	±0.244	rad
Horizontal distortion capability	±25	mm
Durability	Conforming	==

According to Test Report no. 2014/2864

CAMP 430±25		
<i>load capacity 430 kN</i>	<i>stroke ±25 mm</i>	
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	430	kN
Rotation capability	±0.297	rad
Horizontal distortion capability	±25	mm
Durability	Conforming	==

According to Test Report no. 2015/0913

CAMP 430±50		
<i>load capacity 430 kN</i>	<i>stroke ±50 mm</i>	
<i>Essential characteristics</i>	<i>Design value</i>	<i>Unit</i>
Resistance to seismic loads	430	kN
Rotation capability	±0.297	rad
Horizontal distortion capability	±50	mm
Durability	Conforming	==

According to Test Report no. 2017/0543



CAMP products (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>
88 to 132 kN	Up to ± 30 mm	2015/0912
192 to 288 kN	Up to ± 30 mm	2014/2864
344 to 516 kN	Up to ± 30 mm	2015/0913
344 to 516 kN	Up to ± 60 mm	2017/0543

Milan, 18 March 2019

Prof. Ing. Carlo Peggi
Head of Certification Body

**The present Annex is only valid together with the
Certificate of Constancy of Performance no. 1777 – CPR – 15.04
rev. 2 dated 18 March 2019**

**The present Annex cancels and overrides the previous Annex rev. 2 dated
12 March 2018**