

Seismic protection of built environment. The Revision of the European Standard EN 15129 on Anti-Seismic Devices

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Abstract

CEN officially created the TC 340: Anti-seismic Devices in 1993 with the task to proceed with the standardization of the seismic hardware for use in structures erected in seismic areas and designed in accordance with EUROCODE 8, with the aim of modifying their response to seismic action. This European Standard specifies functional requirements and general design rules thereof, material characteristics, manufacturing and testing requirements, as well as acceptance, installation and maintenance criteria. This Standard covers all types of Seismic Hardware in existence and leaves a door open to future progress. Also, the paper elucidates the criteria adopted for the pending revision of the EN 15129 that began in December 2015. In conclusion, this document summarizes the experience gained in Europe over the past 40 years in the field of Anti-seismic devices, which is dealt with through the application of very advanced criteria. This favours progress inasmuch as it promotes loyal competition through clear and fair rules that protect the interests of the community.

Keywords: Comité Européen de Standardisation; CEN; European Standards; Standardization; Anti-seismic devices; seismic protection.

1 Introduction

An increasing number of Congresses and Symposia - as well as other professional meetings - give testimony to the significant strides made by Earthquake Engineering during the last forty years. Progress has been the result of a better understanding of the seismic behaviour of structures as well as improved knowledge of the

characteristics of seismic actions. In relation to these two aspects [Dolce (1991)], newly developed design strategies have been devised and implemented entailing the use of special mechanical devices to be included in the structural system in order to substantially:

- change its overall behaviour (e.g. seismic isolators);