SIEMENS

tiastar Motor Control Centers

Seismic compliance review

What you should know about Siemens commitment to compliance with seismic regulations

Low voltage seismic compliance
Today, strict seismic requirements are not limited to areas prone to earthquakes. Engineers in all locations must be aware of, and comply with, earthquake protection regulations. In addition to construction materials and techniques, these regulations cover nonstructural building systems, including electrical components. In critical applications, such as healthcare facilities, these components must be designed to go beyond surviving an earthquake, to remain in operation after the event is over.

At Siemens, we are committed to making it easier for you to comply with all building requirements, including seismic ratings.

Please contact your Siemens representative for complete details on seismic rating compliance for specific products and configurations.

The purpose of this compliance assessment is to document the seismic compliance of tiastar™ motor control center to the following building codes.

Building code	Edition
Alberta Building Code (ABC)	2006
California Building Code (CBC)	2013
International Building Code (IBC)	2012

Earthquake loading compliance tests (shake tests) were performed at Clarke Dynamic Test Laboratories in accordance with ICC-ES-AC 156 and ASCE 7-05.

Notes:
1. tiastar motor control centers are certified to the stringent seismic requirements of California OSHPD (Office of Statewide Health Planning and Development). Approval # OSP-0074-10. For details, refer to: http://www.oshpd.ca.gov/FDD/Pre-Approval/.
2. The codes and standards referenced in this document are published by in dependent organizations, institutes, or agencies. All copyrights and trademarks related to such codes and publications and the use thereof belong to the entities owning rights to the same.
3. These test results indicate third-party analysis of the Siemens product for compliance to the referenced codes and editions. Nothing in this publication should be taken as endorsements, official approvals, or official test results provided by the publishers of the referenced codes or any code enforcement authorities.

Ratings: Certified to CBC-2013 Section 1705.12, IBC 2012 Section 1705.12
Base Construction, MCC
S_{DS} = 1.25g at z/h = 1.0 & S_{DS} = 2.00g at z/h = 0.0. I_P = 1.5 (600A – 1600A Horizontal Bus)
S_{DS} = 0.81g at z/h = 1.0 & S_{DS} = 1.30g at z/h = 0.0. I_P = 1.5 (2000A – 2500A Horizontal Bus)
Seismically Qualified MCC
S_{DS} = 2.0g at z/h = 1.0 & S_{DS}= 2.0g at z/h = 0.0. I_P = 1.5
IBC Compliance Details (2012)
Occupancy category: i, ii, iii, iv
Seismic design category: A, B, C, D
Site class: A, B, C, D

Definitions:

S_{DS} : Design spectral response acceleration parameter at short periods.

z/h: Ratio (0.0 – 1.0) representing the component mounting height in relation to the total building height. z/h = 0.0 if the component is mounted at ground level in the building. z/h = 1.0 if the component is mounted on the highest level of the building (on the roof).

I_P: Importance factor. This factor (1.0 – 1.5) identifies whether components must be fully operational after a seismic event. An I_P of 1.5 is assigned if the components will operate after a seismic event.

g: Acceleration due to gravity.

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