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The Concrete and Masonry Anchor Manufacturers Association, CAMA, strongly supports the development of a three-tiered approach to seismic design and qualification of post-installed anchors in concrete.

CAMA has played a primary role in developing seismic qualification protocols for post-installed anchors, including the original implementation of protocols that occurred in the late 1990s and a subsequent update in the early 2000s to add assessment for the effects of cracking in concrete. This protocol, which has been retained by documents referenced through the 2024 IBC, was originally developed as a response to the restriction of use of post-installed mechanical anchors after the 1994 Northridge Earthquake.

In 2016, CAMA initiated the development of AC510, which was published by ICC-ES in June 2020. AC510, Acceptance Criteria for Seismic Qualification of Post-installed Anchors in Concrete, contains two methods for seismic qualification of post-installed anchors: the original seismic testing protocol (called ASPC-1) and a new method with more rigorous testing requirements (called ASPC-2) that addresses a larger range of conditions to which anchors could be subjected to during seismic events. The ASPC-2 protocol introduces wider cracks than ASPC-1 and adds a separate test where cracks cycle in width.

AC510 was developed with the intent to provide a reference for design standards to determine where the different qualification procedures would be required. A three-tiered system was envisioned that would include a base tier (ASPC-0) with no required seismic qualification, a second tier requiring ASPC-1 qualification, and a third tier requiring ASPC-2 qualification. A proposal to implement a three-tiered seismic qualification methodology within ASCE/SEI 7 was proposed in the 2022 code cycle, but was unsuccessful. In their newly published 2024 versions, ACI 355.2 and ACI 355.4 removed ASPC-1 qualification testing and replaced it with ASPC-2. CAMA believes that the committees responsible for design standards should evaluate the applicability of the three seismic design tiers.

While it is understood that a final long-term tiered solution may not be available during current code and standard development cycles, CAMA believes that a review of the relationship between the seismic design and qualification of post-installed anchors is needed by all committees developing the standards involved (ACI 318, ACI 355, and ASCE 7). Furthermore, CAMA believes there can be circumstances and applications where ASPC-1 qualification can be utilized in lieu of ASPC-2, and believes those options should be made available as soon as is feasible.