

D26 The Role of Standards and Case Law Relating to Forensic Analysis in Walkway-Safety Incidents: Part Two

Mark I. Marpet, PhD, PE*, MMA, Inc, Chester, NJ 07930

Learning Overview: The goal of this presentation is to discuss the respective roles of codes, standards, professional practice and judicial precedent with respect to the question of what constitutes an actionable defect.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by informing attendees of the relationship between engineering and safety-professional standards and case law and, based upon that, whether an incident is actionable.

Beyond the complexity posed by revisions of standards, which reflect both modern building practice and an evolving understanding with respect to building safer structures, a profound disconnect exists between what forensic practitioners argue, based upon accepted engineering and safety practice, and the actual outcome of a particular lawsuit. In court, statutes, codes, and case law are dispositive, not expert opinions, which only serve to inform the former. That is, and safety professionals may not like this at all, courts set the rules for what is acceptable societal risk, not engineers or safety professionals. Courts can, and generally do, include forensic analysis in their decision-making, but do not uncritically adopt it. In general, the legal system engages in a more nuanced analysis of the totality of the unique facts presented than does a strictly standards-based analysis. To understand this, one must look at the structure and application of standards vis à vis legal precedent. Standards and regulations take various forms. From least to most authoritative, standards and regulations form a hierarchy: (1) company standards, (2) industry-wide standards, (3) voluntary-consensus standards, and (4) government-generated rules and regulations. Let's briefly look at each. (1) Company standards are just that: a set of rules and specifications, akin to instructions on how to properly use a given product. For example, a company standard could instruct an installer how to properly install a specific model of handrail on a given type of wall. (2) Industry standards tend to be far less granular than company standards. Industry standards are generally developed by the members of an industry group. An industry standard might require that a handrail be installed in a manner strong enough to perform its function at a code-specified height. Industry standards are written to cover a class of product, rather than a specific brand and model. (3) Voluntary-consensus standards are like industry standards except that the members of the standards-development committee are drawn from all interested parties and, with few exceptions, are "refereed" by a Standards Development Organization (e.g., American Society for Testing and Materials [ASTM] International [formerly the American Society for Testing and Materials], the American National Standards Institute [ANSI], and the American Academy of Forensic Sciences Standards Board [ASB]). Standards generated by such groups must take into account the often-divergent, sometimes conflicting views and interests of the various stakeholders. In this example, handrail height may have to be adjusted in an elementary-school setting. (4) Government-generated rules and regulations. These are usually quite generic, as they have to be generally applicable. They often rely upon standards developed by others. In our example, the handrail height is set by Code at 30–34 inches before 2008 and 34–38 inches thereafter.

Example: The requirement for handrails at building-entrance steps. Case law at first blush can seem arbitrary or counterintuitive. For example, the New York City Building Code has, since 1916, required handrails for both exterior stairs and interior stairs.¹ But one case, *Gaston v. NYCHA* extensively parsed out the specific language of the code sections at issue to hold that stairs on the outside of a building that lead to the front door do not need handrails. The court found that if exterior steps lack specific features (e.g., a roof, like the covered stairway attached to a wall outside a movie theater), they are not considered "required" stairs and do not have to meet Code.

Thus, a forensic practitioner would find, at least in Manhattan and the Bronx, that the sensible argument that stairs from the building entrance to the street needs handrails that can be reached by all using the stairs would hold no sway. From an engineering or safety point of view, that result would seem to be irrational: one cannot get from the front door to the street without going down steps, seeming to make the steps at issue quite literally necessary, but not "required." However, from a legal point of view, they are not "required," and—again—statutory analysis trumps safety analysis.

The reality of New York City architecture is that it is common for Manhattan buildings, especially older buildings, to not have handrails at entrance stairs and stoops. The *Gaston* result reflects the reality of city's building entrances.

The takeaway is that it is not engineers and safety professionals, it is society, through the legislature and, ultimately, the courts, that set society's level of acceptable risk. Clearly, safety professionals point out that buildings would be safer if they all had proper height handrails on all stairs. But society, through the case law, says that buildings can be safe enough without them.

Reference(s):

¹. §154 in the 1916 code, §6.4.1.10 in the 1938 code, §27–376 in the 1968 code, and §BC 1022 in the 2008 code).

Standards, Codes, Case Law