

TB-90 Use of Polypropylene (PP) and High-Density Polyethylene (HDPE) as Partitions In Today's Model Codes

INTRODUCTION

In the United States today, there are two key organizations when it comes to model codes and standards relating to fire safety and building construction. These are the National Fire Protection Association (NFPA) and the International Code Council (ICC). The codes and standards they develop are not mandatory until adopted by a jurisdiction such as a city, county, state or the federal government¹. Also, many major corporations require compliance regardless of governmental adoption. Adoption is just one of the issues; the other is the date of the edition. Although this Advisory Bulletin is discussing the 2012 editions of various ICC and NFPA codes, at this time very few jurisdictions have adopted them². However, it should be noted that these newer editions reflect the current state-of-the-art. In short, the following discussion is probably not regulation or law in most jurisdictions at this time, but is the standard of care that a prudent person would follow.

There are numerous model codes written by both NFPA and ICC. The codes of most interest in regards to the subject of restroom privacy partitions are the International Building Code (IBC), International Fire Code (IFC), NFPA *Life Safety Code*[®] (*NFPA 101*[®]) and the NFPA Fire Code (NFPA 1) which is virtually identical to *NFPA 101* with regard to the provision being discussed.

TOILET PARTITIONS ARE INTERIOR FINISH

The model codes written by both NFPA and ICC now clearly regulate restroom privacy partitions as interior finish. This is an important clarification as in recent years, some jurisdictions have interpreted that fire and building code requirements for interior finish do not apply to various different types of partitions including toilet and restroom privacy partitions. Due to this fact, the NFPA and ICC codes have been revised to clearly state that restroom privacy partitions are regulated as interior finish. These revisions started with the 2006 editions of all these documents. It is Bobrick's position that the 2009 editions of the IBC and IFC and the 2012 editions of the *NFPA 101* and NFPA 1 reaffirm earlier editions that restroom privacy partitions shall be regulated as interior finish and as such shall comply with ASTM E 84 testing.

POLYPROPYLENE (PP) AND HIGH-DENSITY POLYETHYLENE (HDPE)

Starting with 2009 editions of the IBC and IFC, and with the 2012 editions of the *NFPA 101* and NFPA 1, the requirements for polypropylene (PP) and high-density polyethylene (HDPE), have been revised. It has been recognized for some time that ASTM E-84 *Standard Test Method for Surface Burning Characteristics of Building Materials* (the tunnel test) is not the best test method to

1 Most federal government agencies such as USPS, DOD, VA, GSA do mandate compliance with *NFPA 101* for their facilities. Also OSHA subpart E uses *NFPA 101* and the IFC as a basis for its requirements in Subpart E.

2 Many U.S. governmental agencies use the most current edition of *NFPA 101* for their facilities almost immediately.

use in most cases when testing certain plastics. With the recent increase in use of PP and HDPE for building products, both the NFPA and ICC membership concluded that the nature of these products was such that testing per ASTM E-84 was inappropriate and that NFPA 286 *Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth* (the room-corner test) was the proper way to regulate them. As a result, all four codes now require that interior finishes using PP or HDPE be tested in accordance with NFPA 286. This full-scale test is far better at determining the hazard of an interior finish, especially with certain plastics, than is the traditional “tunnel test,” ASTM E-84. It should be noted, that both the IFC and *NFPA 101* apply this new requirement to existing interior finishes.

CONCLUSIONS

The major model building and fire codes in the United States all clearly require that restroom privacy partitions be regulated as interior finish. There is also agreement within NFPA and ICC that both polypropylene (PP) and high-density polyethylene (HDPE) must be tested by a full-scale test, in this case NFPA 286. Although many, if not most jurisdictions, are referencing older editions of model codes and standards, it is clear with regard to the standard of care at this time that PP and HDPE restroom privacy partitions should be tested in accordance with NFPA 286 and meet the “pass-fail” criteria contained in the model codes. These provisions will eventually become law or regulation in most areas of the United States³. Any architect, interior designer, specifier, or contractor that plans on using PP or HDPE restroom privacy partitions should request copies of test reports from an accredited laboratory showing that the partitions meet these requirements.

Bobrick Washroom Equipment, Inc. presents this material to educate architects and building owners/management on code changes that impact the selection, specification and purchase of toilet partitions and urinal screens. For further information on Bobrick Toilet Partitions, see Bobrick’s current toilet partition catalog or visit www.bobrick.com.

3 Some jurisdictions adopt new codes and standards fairly rapidly while others are very slow. It might take several years before the requirements are mandatory in a particular jurisdiction.