

DensGlass® Shaftliner Assemblies Meets 2009 IBC Requirement for Exit and Elevator Hoistway Enclosures

Two DensGlass® Shaftliner assemblies (see below) have been shown to meet the prescriptive requirements in Section 403.2.3 of the 2009 International Building Code (IBC) structural integrity of exit enclosures and elevator hoistway enclosures. The code calls for the “hardening” of these wall assembly enclosures by meeting both soft body and hard body impact criteria as measured by ASTM C 1629.

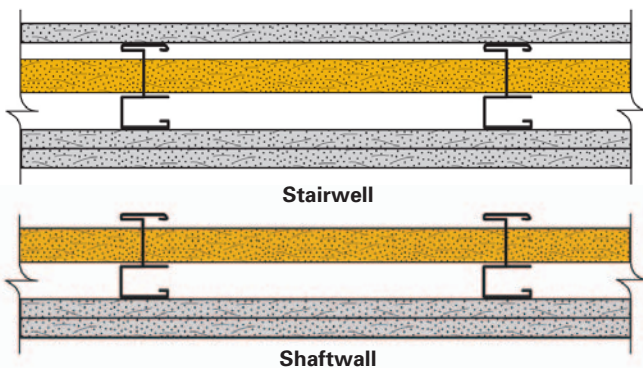
This prescriptive requirement (meeting soft body and hard body impact requirements) in section 403.2.3 applies to high-rise buildings that are considered high occupancy or essential as defined by code (Category III and IV), and all buildings that are more than 420 feet (128 m) in height.

The tested wall assemblies incorporated a 1” DensGlass Shaftliner panel and a single layer of 5/8” DensArmor Plus® Impact-Resistant interior panels on the shaft side of the wall and a double layer consisting of one layer of 5/8” DensArmor Plus Impact-Resistant panels and one layer of either 5/8” DensArmor Plus Impact-Resistant, DensArmor Plus Abuse-Resistant, or ToughRock® Abuse-Guard® gypsum panels on the tenant side of the wall.

The wall assemblies were tested in tandem to meet or exceed Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C 1629 and the wall assembly described in IBC Section 403.2.3.2.

Design Reference UL V 473*

Two-hour fire-rated assemblies, consisting of 5/8” gypsum panels and 1” gypsum shaftliner panels as shown



*For complete assembly information, please consult Underwriters Laboratories Inc.’s Fire Resistance Directory.

Code Language from the 2009 International Building Code (IBC)

403.2.3 Structural integrity of exit enclosures and elevator hoistway enclosure. For high-rise buildings of occupancy category III or IV in accordance with Section 1604.5, and for all buildings that are more than 420 feet (128 m) in *building height, exit enclosures* and elevator hoistway enclosures shall comply with Sections 403.2.3.1 through 403.2.3.4.

403.2.3.1 Wall assembly. The wall assemblies making up the *exit enclosures* and elevator hoistway enclosures shall meet or exceed Soft Body Impact Classification Level 2 as measured by the test method described in ASTM C 1629/C 1629M.

403.2.3.2 Wall assembly materials. The face of the wall assemblies making up the *exit enclosures* and elevator hoistway enclosures that are not exposed to the interior of the *exit enclosure* or elevator hoistway enclosure shall be constructed in accordance with one of the following methods:

1. The wall assembly shall incorporate not less than two layers of impact-resistant construction board each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C 1629/C 1629M.
2. The wall assembly shall incorporate not less than one layer of impact-resistant construction material that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C 1629/C 1629M.
3. The wall assembly incorporates multiple layers of any material, tested in tandem, that meet or exceed Hard Body Impact Classification Level 3 as measured by the test method described in ASTM 1629/C 1629M.

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To learn more about abuse-resistance testing on DensArmor Plus® Abuse- and Impact-Resistant interior panels, please reference the technical brochure at www.gpgypsum.com.

Summary of test results for Single Layer on Shaftliner Side: DensGlass® Shaftliner ASTM C 1629 Testing

Shaft Side Single Layer†	Soft Body Impact Level (0-3)	Hard Body Impact Level (0-3)
DensArmor Plus® Impact-Resistant	3	3

Summary of test results for 2 Layer on Tenant Side: DensGlass® Shaftliner ASTM C 1629 Testing

Tenant Side Double Layer†	Soft Body Impact Level (0-3)	Hard Body Impact Level (0-3)
DensArmor Plus Impact-Resistant/ DensArmor Plus Impact-Resistant	3*	3
DensArmor Plus Impact-Resistant/ ToughRock® Abuse-Guard®	3*	3
DensArmor Plus Impact-Resistant/ DensArmor Plus Abuse-Resistant	3*	3
DensArmor Plus Impact-Resistant/ ToughRock	3	3
DensArmor Plus Impact-Resistant/ DensArmor Plus	3	3

† Each layer comprised of 5/8" panel.

* Determined by Timber Products Inspection, Inc. (testing company) based on testing of the weakest components.

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Technical Information

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maintain adequate ventilation. Use a dust mask or NIOSH/MSHA approved respirator as appropriate in dusty or poorly ventilated areas.

FIRE SAFETY CAUTION Passing a fire test in a controlled laboratory setting and/or certifying or labeling a product as having a one-hour, two-hour, or any other fire resistance or protection rating and, therefore, as acceptable for use in certain fire rated assemblies/systems, does not mean that either a particular assembly/system incorporating the product, or any given piece of the product itself, will necessarily provide one-hour fire resistance, two-hour fire resistance, or any other specified fire resistance or protection in an actual fire. In the event of an actual fire, you should immediately take any and all actions necessary for your safety and the safety of others without regard for any fire rating of any product or assembly/system.

