



- TITLE:** Fiber-Cement Siding: Inherent Issues Affecting Performance
- DESIGNATION:** RCI-TA-017-2019
- OBJECTIVE:** To provide an informative advisory regarding performance issues that may be encountered with fiber-cement siding installed on a building.

BACKGROUND

Fiber-cement is a composite material made of sand, cement, and cellulose fibers. Fiber-cement board siding has been used for residential and commercial construction since the 1970s. Earlier fiber-cement panels were manufactured with asbestos fibers. Fiber-cement siding is available in various sizes, configurations, and surface finishes. Fiber-cement siding began to grow in popularity as an alternative to wood siding because it offers the following advantages:

- Insect-resistant
- Rot-resistant
- Fire-resistant
- Less expensive than traditional wood siding
- Resembles real wood

Failure to install fiber-cement siding in strict compliance with the manufacturer's specifications is a common reason for product failure or poor performance. Manufacturers publish installation requirements and details to achieve stipulated service life. These products have experienced various problems when installation requirements have not been followed. However, fiber-cement siding manufactured by major companies commercially available/installed in the later part of 2013 possessed inherent issues associated with the product that were characterized by shrinkage between the ends of adjoining siding panels, resulting in gaps greater than 3/16 in. (4.8 mm), and exceeding 5/16 in. (7.9 mm) where siding abuts window/doors or trim, and cracking at edges or in the field of the siding board. Signs of siding deterioration may include:

- Flaking

DISCLAIMER

This Technical Advisory is intended to serve only as a general resource and to identify potential issues for consideration by industry professionals. Each person using this Technical Advisory is solely responsible for the evaluation of the Technical Advisory in light of the unique circumstances of any particular situation, must independently determine the applicability of such information, and assumes all risks in connection with the use of such information. The materials contained in this Technical Advisory do not supersede any code, rule, regulation, or legislation and are not intended to represent the standard of care in any jurisdiction.

- Discoloration
- Cracking
- Warping
- Product shrinkage

In the most severe cases, siding can reportedly fracture and become dislodged from the substrate. Some siding products that have failed prematurely have reportedly caused damage to the underlying structure by allowing increased amounts of moisture behind the siding. However, issues of lack of drainage behind the siding and/or improper moisture protection behind the siding may also have contributed to the reported underlying structural damages.

The purpose of this advisory is to provide awareness to RCI members who, during the course of a condition assessment, identify the respective conditions that may be associated with the manufacturing of the materials, and not necessarily related to improper installation or problematic details.

The photos that follow are examples of the conditions of concern.



Figure 1 – Cracks in fiber-cement siding.



Figure 2 – Close-up view of crack in fiber-cement siding.



Figure 3 – Cracks and “warping” in fiber-cement siding.



Figure 4 – Cracks and “warping” (open joint) in fiber-cement siding.



Figure 5 – Close-up view of cracks in fiber-cement siding.



Figure 6 – Close-up view of cracks in fiber-cement siding.



Figure 7 – Warped fiber-cement siding panels and opened butt joints between panels.



Figure 8 – Crack in fiber-cement trim.



Figure 9 – Close-up view of crack in fiber-cement siding.



Figure 10 – Close-up view of open butt joint in fiber-cement siding.