TECHNICAL BULLETIN

Georgia-Pacific Gypsum LLC
133 Peachtree Street, N.E.
Atlanta, Georgia 30303

DATE: March 4, 2016

SUBJECT: DensElement™ Barrier System Deemed NFPA 285 Compliant

Georgia-Pacific Gypsum concludes the DensElement™ Barrier System is NFPA 285 compliant based on the following criteria:

- DensElement™ Sheathing is noncombustible. The gypsum sheathing comprises approximately 85-percent of the water-resistive and air barrier surface.
- PROSOCO FastFlash® liquid flashing properly fills and seals joints, fasteners, and penetrations in a limited and disconnected use over the DensElement™ Sheathing.
- PROSOCO fluid-applied flashing materials that are part of, or equal to, the fluid-applied flashing materials in the DensElement™ Barrier System have passed testing in NFPA 285 assemblies.
- Priest Engineering conducted engineering evaluations for PROSOCO based on the NFPA 285 assemblies tested (see attached documentation).
- Priest Engineering has provided a letter stating that DensElement™ Sheathing and PROSOCO FastFlash® liquid flashing are equivalent to the testing conducted, as outlined in the third bullet above, on the NFPA 285 assemblies tested (see attached documentation).

The DensElement™ Barrier System consists of three system components: DensElement™ Sheathing (a noncombustible gypsum sheathing), PROSOCO R-Guard® FastFlash® liquid flashing and R-Guard® PorousPrep® water-based primer. When properly installed, the DensElement™ Barrier System serves as the building's water-resistive barrier and continuous air barrier as prescribed in both the International Residential Code (IRC) and International Building Code (IBC), when the joints, fasteners, penetrations, openings and transitions are properly sealed with PROSOCO FastFlash® liquid flashing.

The DensElement™ Barrier System holds an International Code Council Evaluation Service (ICC-ES®) Evaluation Report (ESR-3786) for IRC, IBC, Chapter 1, Section 104 *Alternative Materials Compliance*.

For installation details and full limited warranty details, visit DensElement.com.

PRIEST & ASSOCIATES
CONSULTING, LLC

February 16, 2015

Prosoco, Inc.
3741 Greenway Circle
Lawrence, KS 66046

Re: Project No. 10244A - Use of Prosoco FastFlash and Georgia Pacific DensElement in Prosoco NFPA 285 Assemblies

The purpose of this Engineering letter is to justify use of Prosoco FastFlash on the joints of Georgia Pacific DensElement in NFPA 285 assemblies approved for Prosoco.

An alternate WRB can substitute for a WRB incorporated in an NFPA 285 tested assembly or approved in a previous Engineering Evaluation if the relative flaming characteristics of the alternate product is the same or better than the baseline product.

This is accomplished via Engineering Evaluations (EEV's) such as those written for PROSOCO (Ref. 10261A, B, C, D, E, F, G, H & I) representing assemblies incorporating XPS and polyisocyanurate exterior insulation products from Atlas, Carlisle, DOW, Hunter, Johns Manville, Owens Corning, and Rmax.

In this case, the WRB is integrated into the DensElement product which is defined as a noncombustible building product (Ref. Georgia Pacific ICC-ES ESR Report 3786) when tested per ASTM E136. That ESR prescribes use of Prosoco R-Guard FastFlash liquid applied flashing to seal sheathing joints, screw heads and penetrations.

In the Prosoco EEV's cited above, various combustible Prosoco WRB products are allowed to be installed over the gypsum board sheathing. For this Engineering Letter, the DensElement product, flashed with Prosoco R-Guard FastFlash may replace the exterior sheathing/WRB in those reports cited above and is deemed a less combustible alternate for the following reasons:

1) Sheathing Joint Flashing is discontinuous in use and provides for less fuel compared to full coverage WRB's installed over gypsum board sheathing. If the flashing were to ignite, the flame spread would be limited when the sheathing joints are staggered.

2) In order to ignite the flashing, the fire from the NFPA 285 burner must penetrate the cladding, ignite the combustible exterior insulation, consume the insulation, and then ignite the flashing. Our professional judgment is that by the time the fire has consumed enough insulation to involve the flashing, a test failure would have already occurred.

   However, all of the approved allowances in the cited Prosoco EEV's are deemed to pass NFPA 285 based on real testing of assemblies that are more prone to flame spread than the approved alternates. Based on this, none of the Prosoco assemblies listed in the referenced EEV's will burn enough insulation to cause a failure, so the flashing would be minimally involved in the fire.

3) Our interpretation of section 1403.5 of the 2015 IBC is that fenestration flashings are exempt from NFPA 285 testing since they are not considered part of the WRB. This is based on the fact that fenestration flashings do not contain enough material to cause an NFPA 285 failure. It is our professional judgment that sheathing joint flashings also do not contain enough material, nor are they installed in such a way as to allow unlimited flame spread to cause an NFPA 285 failure

when installed under (behind) NFPA 285 approved combustible or noncombustible insulations and cladding assemblies.

Conclusion
Based on the discussion above, replacing the gypsum board sheathing and WRB's with DensElement flashed with Prosoco R-Guard FastFlash in the cited Prosoco reports are deemed to be able to pass the NFPA 285 test. The three argument points above justify use of Prosoco FastFlash on the sheathing joints of Georgia Pacific DensElement in NFPA 285 assemblies approved for Prosoco.

Submitted by,

Javier Trevino
Associate Engineer
210-601-0655

Reviewed and Approved,

Deg Priest
President