

RetroPlus™ Roof Board

RetroPlus Is the Improved-Durability Version of Retro-Fit® Board

Johns Manville engineers have been busy upgrading equipment, optimizing processes and improving product formulations associated with its workhorse Retro-Fit product. The result of this hard work is the newly developed RetroPlus™ Roof Board that offers:

- **Improved durability**
- **Excellent water resistance and latent moisture content**
- **Superior fire resistance**
- **Sustainable product attributes, such as increased recycled content**
- **Equivalent codes and approvals as Retro-Fit**
- **Clear cover board advantages over wood fiber board**

“We had the opportunity to use the new RetroPlus™ product on a 126-square BUR job. My crew found the new cover board to be less dusty than other perlite products. The product bonds extremely well to the membrane, and the entire system is stronger with the new board. My crew believes that RetroPlus performs better than equivalent wood fiber boards.”

Isidro Rivera, foreman of Construction Services (a Tecta® America Corp.), Cumming, Ga.

Improved Durability: We Listened to Our Customers!

Contractors appreciate the improved break-load and compressive strength over Retro-Fit.

- Still lightweight, easy to cut/shape and simple to install.
- Two times better break-load strength means less related job waste (broken corners, shipping damage and careful handling).
- Water absorption is significantly less than wood fiber board. Retained moisture in a cover board is a primary cause of blistering in hot-applied applications during and shortly after installation.
- RetroPlus has higher compressive strength than wood fiber board, which may translate to better impact resistance to foot traffic during installation.
- Limited performance testing during installation revealed less dust, and as a result, a cleaner work area.

Consultants appreciate the improved durability of RetroPlus while retaining all the FM Global® and UL® approvals of the Retro-Fit product.

- RetroPlus has higher laminar tensile strength than wood fiber board, which may translate into added protection from severe wind uplift conditions.
- With compressive strength now higher than wood fiber board, roofs specified with RetroPlus are likely to have higher impact resistance to cover foot traffic and hail.
- While no cover board should be installed wet, in certain cases of system failure, RetroPlus has greater compressive “wet” strength compared to wood fiber board.

Typical Roof Board Mechanical Properties (1/2" nominal thickness)

Property	Method	Johns Manville		Wood Fiber Board	
		Retro-Fit	RetroPlus	1-Sided	6-Sided
Board Density (pcf)	Internal	11	14	17	20
Compression Strength (psi)	ASTM C 165	35	60	25	30
Laminar Tensile Strength (psi)	ASTM C 209	5	19	12	12
Break-Load Strength (lb)	ASTM C 203	5	10	18	23
Flexural Strength (MOR, psi)	ASTM C 209	60	225	300	500
Linear Expansion (%)	Internal	0.1%	0.1%	0.3%	0.3%
Moisture Content (%)	Internal	2	2	10	10
Water Absorption (2 hr % V)	ASTM C 209	3.5	2.5	5	3.1
Wet Compressive Strength (psi)	ASTM C 165	8	15	5	5

Actual tests from stock materials. Average or min./max. values may differ.

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RetroPlus – The Right Choice for Hot-Applied Systems

- RetroPlus is approved by FM Global as a hot-applied cover board over polyisocyanurate insulation, with BUR, SBS, APP or PVC membranes as compared to other cover board manufacturers.
- Superior fire resistance may lead to better protection of the building, its contents and its inhabitants during installation. Perlite content in the board limits smoldering from unintentional fire sources.
- RetroPlus also provides that additional layer of insulation during re-cover jobs.

Typical Roof Board Thermal Resistance Properties (1/2" nominal thickness)

Property	Method	Johns Manville		Wood Fiber Board	
		Retro-Fit	RetroPlus	1-Sided	6-Sided
Flame Spread	ASTM E 84	40	35	80 – 390	80 – 390
Smoked Developed	ASTM E 84	5	10	20 – 200	20 – 200
R-Value	ASTM C 518	1.3	1.3	1.4	1.3

Actual tests from stock materials. Average or min./max. values may differ.

RetroPlus – The Right Choice for the Environment

- The Fesco® product line has been a sustainable product since 1952, with decades of proven performance.
- The newsprint content in RetroPlus has been increased up to 40% (postconsumer recycled content).
- For LEED® credit calculations, postconsumer recycled content may receive twice the point rating as preconsumer recycled content.
- Further LEED credits may be achieved because the binders in RetroPlus are from rapidly renewable materials.

RetroPlus – Versatility in Codes

- RetroPlus has been rated in numerous — over 63,000 — FM Global fire- and wind-resistant systems.
- RetroPlus has also been approved for use in specific UL Class A constructions.
- Product meets or exceeds ASTM C 728, Type 2.
- With the improved strength of RetroPlus, Johns Manville is testing for more codes in areas of high-wind uplift, cold-applied and single ply applications.