

Comparison of Closed-Cell Spray Foam vs. Other Cavity Insulations

Features	Closed-Cell Polyurethane Spray Foam (ccSPF)	Open-Cell Polyurethane Spray Foam (ocSPF)	Fiberglass Batts	Fiberglass Loose-Fill	Wet-Sprayed Cellulose	Blown-in (Dry) Cellulose	Mineral Wool
Typical R-value per inch ¹	6.2	3.6	3.7	3.2	4.0	4.0	3.9
No wind washing effect ²	✓	✓	✗	✗	✗	✗	✗
Certified air barrier ³	✓	✗	✗	✗	✗	✗	✗
Expands to fill hard-to-reach spaces	✓	✓	✗	✗	✗	✗	✗
Contains no HCFCs or CFCs	✓	✓	✓	✓	✓	✓	✓
Does not contain formaldehyde ⁴	✓	✓	✗	✓	✓	✓	✗
Can be injected in existing wall cavities without significant demolition ⁵	✗	✗	✗	✓	✗	✓	✗
Won't shrink or settle over time when properly installed	✓	✓	✗	✗	✓	✗	✗
Will not absorb significant levels of water ⁶	✓	✗	✗	✗	✗	✗	✗
FEMA approved flood-resistant insulation material	✓	✗	✗	✗	✗	✗	✗
Serves as a vapor retarder without additional materials ⁷	✓	✗	✗	✗	✗	✗	✗
Will not distort framing when properly installed ⁸	✓	✓	✓	✓	✓	✓	✓
Efficiently reduces sound transmission through walls	✓	✓	✗	✗	✗	✗	✗
Manufacturers (partial list)	BASF BaySystems CertainTeed Corbond Demilec Dow Chemical Gaco Western Henry Co. Lapolla NCFI	BASF BaySystems CertainTeed Demilec Dow Chemical Gaco Western Icynene Lapolla NCFI	Bonded Logic CertainTeed Green Fiber Guardian Johns-Manville Knauf Gips Owens Corning	Bonded Logic CertainTeed Green Fiber Guardian Johns-Manville Knauf Gips Owens Corning	Applegate NuWool U.S. Green-Fiber	Applegate NuWool U.S. Green-Fiber	CSR Limited International KCC Corporation Knauf Gips Koc Holding AS Owens Corning Paroc Group Oy AB RHI AG Rockwool Saint-Gobain

- 1: R-value per inch varies by manufacturer; please consult manufacturer literature. 6.2 for closed-cell SPF is based on ASTM C- 1029.
- 2: The effect of wind-driven air movement through air permeable insulation that reduces its insulating value.
- 3: When a minimum of 1" is applied, closed-cell SPF qualifies as an air barrier according to ASTM E-2178 which is the test used by the Air Barrier Association of America (ABAA) to define an air barrier. The ABAA and its Canadian counterparts uniformly agree that the correct test for determining whether a material is an air barrier is ASTM E2178. To Honeywell's knowledge, no open-cell SPF product has passed this test.
- 4: Fiberglass batts and mineral wool may contain formaldehyde. Check with your manufacturer.
- 5: While no spray-applied open-cell foam can be used without removing the interior wall material, a pour-in option is available which can be applied through a relatively small opening in the interior wall.
- 6: Closed-cell SPF may absorb minimal amounts of water (approximately 0 – 2% by volume, depending on manufacturer). Open-cell SPF typically absorbs up to 15% by volume.
- 7: When applied to a thickness of roughly 2 inches, most closed-cell SPF qualifies as a 1 perm vapor retarder according to ASTM E-96. Perm ratings vary by manufacturer; please consult manufacturer literature.
- 8: No insulation product should distort framing when properly installed. Always make sure your contractor is qualified for your job regardless of the type of insulation being used.