

National Fiber's Cellulose Insulation

How Do They Stack Up?	Cel-Pak Cellulose	Fiberglass Batts	Open Cell Foam (1/2 lb. density)	Closed Cell Foam (2 lb. density)
Typical R-Value in 2x6 wall	R-20	R-11*	R-20**	R-21 to 34***
Resists Air Flow?	Yes-Dense Packed ✓	No - Air Filter	Yes ✓	Yes ✓
No Gaps or Voids?	Yes-Dense Packed ✓	No - Gaps & Voids	May Have Voids	Voids if cavity not filled. Gaps or cracks can occur as structure dries or moves.
Use for retrofit w/o sig. demolition?	Yes ✓	No	No	No
Sound Transmission (STC)	41 ✓	38 [^]	37	37
Smoke when burned? ^{^^}	None ✓	50	300 - 400	300 - 450
Functions as Fireblock?	Yes ✓	No - Melts	No - Burns ^{^^^}	No - Burns ^{^^^}
Moisture Management	Yes-Hygroscopic ✓	No - Hydrophobic	No - Hydrophobic	No - Hydrophobic
Deters Mold & Pests	Yes - Has Borates ✓	No	No	No
Outgasses?	No ✓	May - Formaldehyde	Yes - At installation	Yes - At installation
Blowing agent?	Air ✓	n/a	Chemical based gas [#]	Chemical based gas [#]
Recycled Content	82%+ ✓	Up to 35% ^{##}	Little or None	Little or None
Embodied Energy	750 btu/lb ✓	12,000 btu/lb	up to 30,000 btu/lb	up to 48,000 btu/lb

* Per Conservation Services Group (CSG), R-19 rated fiberglass batt in typical installation.

** Assumes cavity is completely filled, which may not be the case.

*** In a completely filled 2x6 cavity, closed cell foam will have an R-Value of app. 34. However, field installation depth by many contractors is app. 3.5" in a 2x6 wall cavity due to cost, challenge in controlling application depth and difficulty of trimming. In addition, in partially filled cavities, thermal bridging by studs can further degrade R-Value.

[^] As measured in a laboratory setting - installed performance typically lower. ^{^^} ASTM E 84 SDI (Smoke Developed Index)

^{^^^} Once code mandated fire barrier is breached. [#] Some blowing agents used in sprayed foams are also powerful greenhouse gases. Check with the manufacturer of your product. ^{##} Only 9%+/- post-consumer, the rest recovered during the manufacturing process.

