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	H_2O/CO_2#	Chemical based gas#
Recycled Content	**82%+ √**	35-50%##	Little or None	Little or None
Embodied Energy	**750 btu/lb √**	up to 10x more@	up to 30,000 btu/lb	up to 48,000 btu/lb

* Per Conservation Services Group (CSG), R-19 rated glass fiber batt R performance 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. ## 35% according to National Resources Defense Council, 50% according to NAIMA (No. American Insulation Mfr's Asso.) @NRDC Report: Keeping Warm and Stayir Healthy: A Comparative look at Fiberglass and Cellulose Insulation - Principal Author and Researcher: Anjanette DeCarlo; Project Design and Direction: Allen Hershkowitz, Ph.D.
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Professional Cellulose for Cellulose Professionals