

K-FLEX DUCT® LINER GRAY versus POLYETHYLENE SHEET for LINING OF AHU's and VAV BOXES

K-Flex Duct® Liner Gray is the only flexible closed-cell sheet insulation material designed specifically for use in air handling systems. Because it was designed with these applications in mind, it offers superior performance and installation advantages that no other closed-cell liner can match.

The table below provides a comparison of key performance and installation differences between K-Flex Duct Liner Gray and Polyethylene sheet insulation.

Property	K-Flex Duct Liner Gray	Polyethylene Sheet
Material Type	NBR / PVC Thermoset (non-melting)	Polyethylene Thermoplastic (melts)
ASTM E84 25/50 Rated	Maximum 2" thickness	Maximum 1" thickness
Maximum Operating Temperature	220°F (200°F w/ optional PSA)	210°F
Hot Surface Performance @ 250°F (ASTM C411)	Pass	Melts
R-value @ 1" thickness	4.2 (code compliant)	4.0 (does not meet all codes)
NRC (ASTM C423)	0.55 @ 1"	0.35@1"
STC (ASTM E90) @ 1" thickness	12, 27 adhered to galvanized steel	11
Sound Insertion Loss (db) at Frequency (Hz)	125 = 1, 250 = 3, 500 = 20, 1000 = 7, 2000 = 12, 4000 = 12, 8000 = 12	Not Stated
Low VOC	UL GREENGUARD / GREENGUARD GOLD Certified	UL GREENGUARD / GREENGUARD GOLD Certified
Mold Resistance	UL Validated Mold Resistant	Not UL Validated
Installation Methods	Solvent based adhesive, Low VOC solvent based adhesive, water based adhesive, factory-applied pressure sensitive adhesive ("peel and stick")	Solvent based adhesive, hot melt spray adhesive

Installation notes: The use of hot melt spray adhesive yields inconsistent results due to the cooling rate of the adhesive when applied to metal, large surface areas covered and time to install Polyethylene sheet. Installation can cause melting of the insulation if the adhesive is too hot or lack of bond if the adhesive has cooled too much. In addition, hot melt equipment is expensive and may be difficult to maintain. We would recommend the use of mechanical attachment when hot melt adhesive is used.

