



California Building Envelope Solutions

July 12 - 14, 2016

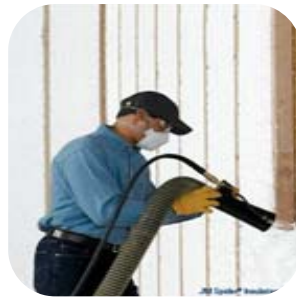
Proven Experience with JM

- 158 Years
- Berkshire Hathaway
- Insulation Experts

Products



JM
Expertise



Installation



Innovation



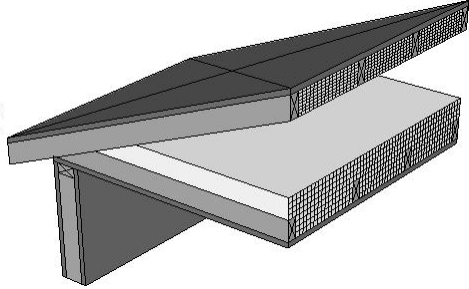








Challenges

2016 Title 24 New Requirements

- Attics
 - Ducts in attic
 - High Performance Attics (HPA)
 - Insulation @ attic floor & roof deck & radiant barrier
 - Unvented Attics (UVA) – Performance option
 - Ducts in conditioned space
 - Insulation @ attic floor & radiant barrier
- High Performance Walls (HPW)
 - Cavity & continuous insulation needed (mostly)
 - Factor in framing

Attic Solutions

Product	Perf.	Cost	Labor	
Fiber glass – vented		\$		
UVA with fiber glass batts		\$		
Spray foam		\$\$\$		

Wall Systems

Framing options

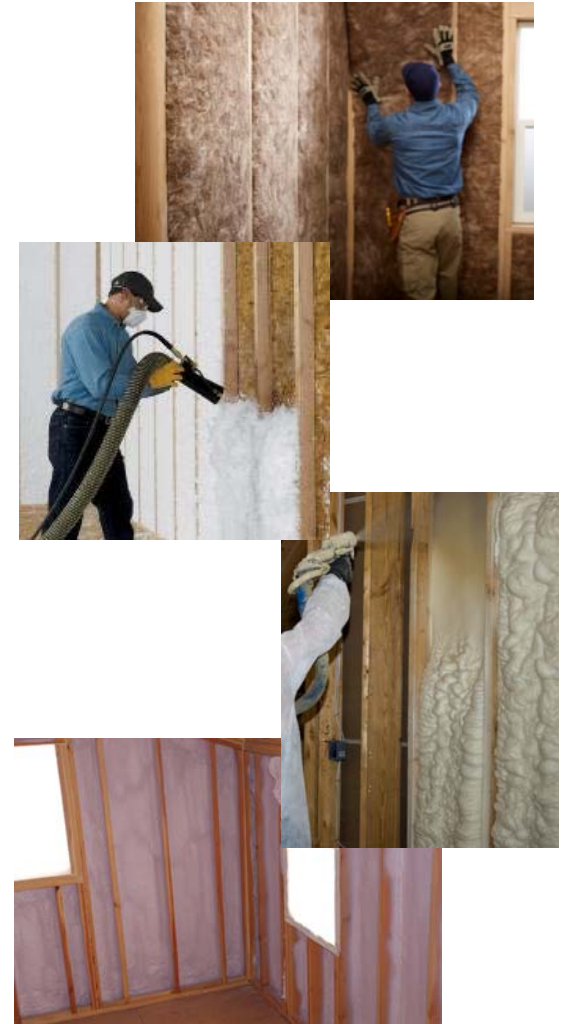
- 2x4 wood studs, 16" o.c.
 - 25% framing
- 2x6 wood studs, 16" o.c.
 - 25% framing
- **Advanced wall system** (from JA-4)
 - 24" o.c.
 - Single top plates, 2-stud corners
 - Stacked studs
 - Ladder or T-framing for interior partitions
 - Reduced cripples, reduced headers

Wall Systems

Cavity insulation

Product Type	Thickness	R-values
Fiber glass batts	3½", 5½"	13, 15 19, 21
JM Spider® Plus	3½", 5½"	14 - 23
JM Corbond® oc SPF	3½", 5½"	13.3, 20.9
JM Corbond III®	3"+	21+ (R-7/inch)

**JM Corbond III + Spider Plus or batts =
effective hybrid option**



Wall Systems

Continuous insulation

- AP™ Foil-Faced Foam Sheathing
 - Taped for WRB & air barrier
 - Can resist lateral wind loads
 - Thicknesses up to 4½” available
- JM Corbond III® can be exterior CI if fully sheathed



Thickness	R-values
½”, ⅝”, ¾”, 0.85”	2.7, 3.5, 4.4, 5.0
1”, 1½”, 1.65”	6.0, 9.3, 10.0



HPW Solutions

Cavity	Continuous	Framing	U-factor
FG Batts ocSPF (R-13)	1½" AP Foil (R-9.3)	2x4 16" o.c.	0.047
FG Batts JM Spider Plus (R-15)	1½" AP Foil (R-9.3)	2x4 16" o.c.	0.045
JM Corbond III (R-32)	--	2x6 AWS	0.051

Options for CZ 6 & 7 do not require CI



HPW Solutions

Good



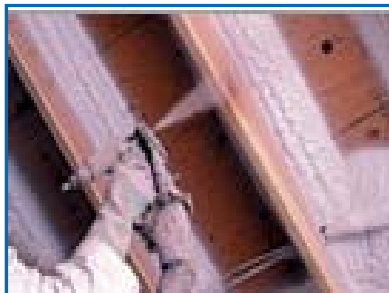
Better



+



Best



\$

\$\$

\$\$

Cavity Insulation + Continuous Insulation = T 24 Compliance



Summary

Many insulation options for attics & walls

- Attics
 - Vented or unvented, driven by HVAC & duct location, and Performance vs. Prescriptive compliance
 - Fiber glass batts, JM Spider, spray foam all can work
 - Unvented attics (UVA) must be air sealed
- Walls
 - Framing + cavity insulation + continuous insulation
 - Fiber glass, JM Spider Plus, spray foam & AP Foil sheathing are all essential elements
 - Air sealing is critical

JM is your complete source for the best design for your homes





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Paths to Compliance

	Cavity	Continuous	2x4 16" o.c.	2x6 16" o.c.	2x6 AWS
Batts + AP Foil	13	9.3	0.047		
	15	9.3	0.045		
	19	4		0.054	0.050
	21	4		0.052	0.047
Spider Plus or BIBS + AP Foil	15	9.3	0.045		
	23	0			0.060
Spider Plus or BIBS	23	4		0.050	0.045
Corbond oc SPF + AP Foil	13.0	9.3	0.047		
	20.4	0		0.073	0.064
	20.4	4		0.053	0.048
Corbond III	21.7	4	0.051		
	32	0		0.061	0.051
	22	4		0.051	0.046
Hybrid Systems					
1" Corbond III + Spider Plus	17.9	6	0.050		
1" Corbond III + Spider Plus	25.8	3		0.051	0.045
1.5" Corbond III + Spider Plus	19.3	5	0.051		
1.5" Corbond III + Spider Plus	27.2	4		0.047	0.042
2" Corbond III + Spider Plus	20.7	5	0.049		
2" Corbond III + Spider Plus	28.6	4		0.046	0.041
Hybrid Systems + AP Foil					
1" Corbond III + Spider Plus	17.9	6	0.050		
1.5" Corbond III + Spider Plus	19.3	6	0.048		
2" Corbond III + Spider Plus	20.7	4.4	0.051		

