EC50–09/10

Table 402.1.1, Table 402.1.3; IRC Table N1102.1, Table N1102.1.2

Proponent: Bill Prindle, ICF International, representing the Energy Efficient Codes Coalition; Jeff Harris, Alliance to Save Energy; Harry Misuriello, American Council for an Energy-Efficient Economy (ACEEE); Garrett Stone, Brickfield, Burchette, Ritts & Stone; Steve Rosenstock, Edison Electric Institute; Brian Dean, ICF International

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IECC COMMITTEE. PART II WILL BE HEARD BY THE IRC BUILDING/ENERGY COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IECC

Revise as follows:

TABLE 402.1.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

CLIMATE ZONE	FENESTRATION U-FACTOR[b]	SKYLIGHTb U-FACTOR	GLAZED FENESTRATION SHGCb, [e]	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE[i]	FLOOR R-VALUE	BASEMENTc WALL R-VALUE	SLABd R-VALUE & DEPTH	CRAWL SPACE[c] WALL R-VALUE
1	1.2	0.75	0.30	30	13	3/4	13	0	0	0
2	0.65j	0.75	0.30	30	13	4/6	13	0	0	0
3	0.50j	0.65	0.30	30	13	5/8	19	5/13f	0	5/13
4 except Marine	0.35	0.60	NR	38	13	5/10	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.35	0.60	NR	38	20 or 13+5h	13/17	30g	~~10/13~~ 15/19	10, 2 ft	~~10/13~~ 15/19
6	0.35	0.60	NR	49	20 or 13+5h	15/19	30g	15/19	10, 4 ft	~~10/13~~ 15/19
7 and 8	0.35	0.60	NR	49	21	19/21	38g	15/19	10, 4 ft	~~10/13~~ 15/19

(Footnotes remain unchanged)

TABLE 402.1.3
EQUIVALENT U-FACTORS[a]

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR[b]	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR[d]	CRAWL SPACE WALL U-FACTOR[c]
1	1.20	0.75	0.035	0.082	0.197	0.064	0.360	0.477
2	0.65	0.75	0.035	0.082	0.165	0.064	0.360	0.477
3	0.50	0.65	0.035	0.082	0.141	0.047	0.091c	0.136
4 except Marine	0.35	0.60	0.030	0.082	0.141	0.047	0.059	0.065
5 and Marine 4	0.35	0.60	0.030	0.057	0.082	0.033	~~0.059~~ 0.050	~~0.065~~ 0.055
6	0.35	0.60	0.026	0.057	0.060	0.033	0.050	~~0.065~~ 0.055
7 and 8	0.35	0.60	0.026	0.057	0.057	0.028	0.050	~~0.065~~ 0.055

(Footnotes remain unchanged)

PART II – IRC BUILDING/ENERGY

Revise as follows:

TABLE N1102.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT[b] U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE[k]	FLOOR R-VALUE	BASEMENT[c] WALL R-VALUE	SLAB[d] R-VALUE AND DEPTH	CRAWL SPACE[c] WALL R-VALUE
1	1.2	0.75	0.35j	30	13	3/4	13	0	0	0
2	0.65i	0.75	0.35j	30	13	4/6	13	0	0	0
3	0.50i	0.65	0.35e, j	30	13	5/8	19	5/13f	0	5/13
4 except Marine	0.35	0.60	NR	38	13	5/10	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.35	0.60	NR	38	20 or 13 + 5h	13/17	30f	~~10/13~~ 15/19	10, 2 ft	~~10/13~~ 15/19
6	0.35	0.60	NR	49	20 or 13 + 5h	15/19	30g	~~10/13~~ 15/19	10, 4 ft	~~10/13~~ 15/19
7 and 8	0.35	0.60	NR	49	21	19/21	30g	~~10/13~~ 15/19	10, 4 ft	~~10/13~~ 15/19

(Footnotes remain unchanged)

TABLE N1102.1.2
EQUIVALENT U-FACTORS[a]

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR[b]	FLOOR U-FACTOR	BASEMENT WALL U-FACTOR	CRAWL SPACE WALL U-FACTOR
1	1.20	0.75	0.035	0.082	0.197	0.064	0.360	0.477
2	0.65	0.75	0.035	0.082	0.165	0.064	0.360	0.477
3	0.50	0.65	0.035	0.082	0.141	0.047	0.091c	0.136
4 except Marine	0.35	0.60	0.030	0.082	0.141	0.047	0.059	0.065
5 and Marine 4	0.35	0.60	0.030	0.060	0.082	0.033	~~0.059~~ 0.050	~~0.065~~ 0.055
6	0.35	0.60	0.026	0.060	0.060	0.033	~~0.059~~ 0.050	~~0.065~~ 0.055
7 and 8	0.35	0.60	0.026	0.057	0.057	0.033	~~0.059~~ 0.050	~~0.065~~ 0.055

(Footnotes remain unchanged)

Reason: This code proposal is intended to improve thermal envelope efficiency through improved insulation in foundations, including both basements and crawlspaces, in the colder climates. The savings from this proposal, especially when coupled with other proposed code modifications can lead to significant overall energy savings for homes. Moreover, unlike many building components, foundation insulation can last for the life of the building, and is harder to install after new construction is complete than other building components. This helps in delivering consistent energy savings far longer than most energy savings measures. The following table portrays estimated savings from these measures:

	Basement Climate Zone 5	Basement Climate Zone 6	Basement Climate Zone 7	Basement Climate Zone8	Crawlspace Climate Zone 5	Crawlspace Climate Zone 6	Crawlspace Climate Zone 7	Crawlspace Climate Zone 8
Heating, Cooling, Hot Water Purchased Energy Cost Percent Savings	0.9%	0.9%	1.1%	0.9%	0.3%	0.3%	0.3%	0.3%
Total Purchased Energy Cost Percent Savings (also including major appliances and lighting)	0.7%	0.7%	0.8%	0.7%	0.2%	0.2%	0.3%	0.2%

These modest, cost-effective savings are part of a larger package of proposals that together will get the IECC to the 30% improvement that national policymakers are seeking. Achieving this goal requires several modest improvements, in multiple components of the building. Recent

energy price increases, despite softening effects of the current economic downturn, signal a new era of sharply higher energy costs. In addition, climate change policy is likely to be enacted before the 2012 IECC is published, and its effects will likely include further energy price increases This proposal represents one of a set of reasonable and cost effective improvements that give states new options to increase the efficiency of their energy codes.

Cost Impact: The code change proposal will increase the cost of construction.

PART I – IECC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IRC BUILDING/ENERGY

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

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