

## Proposed Changes to IEQ & Comfort Measures in the International Green Construction Code (IGCC) as of March 25, 2011

**Introduction:** The International Green Construction Code (IGCC) is a proposed international standard for green building that incorporates sustainability practices into the construction process. As the IGCC has the potential to drastically change the global construction industry, Berkeley Analytical (BKA) has been closely watching developments in the lead-up to the finalization of the Code. In addition, we have entered change proposals. The following table summarizes all relevant code change proposals to Section 8 of Public Version 2.0 of the IGCC that could impact our customers. The International Code Council is holding live hearings to address these proposals on May 20 & 21 in Dallas, TX (<http://www.iccsafe.org/cs/IGCC/Documents/misc/2011HearingSchedule.pdf>).

**Disclaimer:** The information in this document is offered in good faith and is believed to be reliable. However, this information is made available without warranty, express or implied, as to its accuracy, merchantability, fitness for a particular purpose, or any other matter. A complete copy of the public comments on Section 8, IGCC, PV 2.0 should be consulted and can be downloaded here: <http://www.iccsafe.org/cs/IGCC/Pages/2011ProposedCodeChanges.aspx>. The full IGCC, PV2.0 can be downloaded here: <http://www.iccsafe.org/cs/IGCC/Pages/IGCCDownloadV2.aspx>.

IGCC Sec. #	GG#	Name	Company	Summary
<b>806.1 Emissions from glued wood products</b>	565-11	Sam Francis	American Wood Council	Glued Wood products not included in definition of Composite Wood Products, add ANSI/AITC 190.1-2007 to standards
	566-11	Alfred Hodgson	BKA	Include sealed 'with an impermeable material' to item 2 in exceptions, cite formaldehyde emissions reference, add ASTM D6007-02, ASTM E1333 to standards
	567-11	Peggy Jenkins	CARB	Change 'glued wood products' to 'composite wood products', delete exceptions 2 and 3
	568-11	Reinhard Oppl	Eurofins	Add exception: materials that do not exceed 50% of formaldehyde limit in EN 13986, add EN 13986 – 2004 to standards
<b>806.2 Adhesives and Sealants</b>	569-11	Alfred Hodgson	BKA	Delete 806.2.1, add 'specific categories of' and 'used on the interior of the building within the weatherproofing system'
	570-11	Stephany Mason	AQS	Comply with VOC content limits AND the VOC emissions limits in Table 806.2 (2). Remove 'alternative' emissions from following text.
	571-11	Stephany Mason	AQS	Add GGTM.P066 'Standard Method for Measuring and Evaluating Chemical Emissions from Building Materials, Finishes and Furnishings using Dynamic Environmental Chambers'
	572-11	Josh Jacobs	GREENGUARD	Comply with VOC content limits AND the VOC emissions limits in Table 806.2 (2). Remove 'alternative' emissions from following text. (Same as 570-11)
	573-11	Wenhao Chen	CDPH	Delete alternative, replace with 'additionally, not less than 85 percent by weight or volume of adhesives and sealants site-applied to floors, ceilings and walls shall meet the'
	574-11	Alfred Hodgson	BKA	Add 'the results shall be modeled to the office or the school classroom scenario defined in Standard Method V1.1'
	575-11	Thomas Hutchinson	Hutchinson Design	Revise Table 806.2(1) to add single ply roof primers and sealants to have a VOC limit of 450 g/L

	576-11	Michael Schmeida	Tremco Sealants	Add c superscript 'Formaldehyde emission levels need not be reported for materials where formaldehyde is inherent, trace amounts and formaldehyde is not added by the manufacturer'
	577-11	Alfred Hodgson	BkA	Add 'The results of such testing shall be modeled to the office or school classroom scenario as defined in Standard Method V1.1'
	578-11	Josh Jacobs	GREENGUARD	Sealants shall comply with limits in CDPH Standard Method. Delete everything thereafter.
	579-11	Bradley Grams	EPA, Region 5	Add 'For specific VOC emissions, additional methods determined by the code official or manufacturer's specifications shall be permitted to be utilized to supplement the methods stated herein.'
	580-11	Reinhard Oppl	Eurofins	Add 'VOC content test results obtained by the test methods specified in ISO 11890 parts 1 and 2 shall be acceptable.' Add German AgBB Testing and Evaluation Scheme, ISO 16000-11, EMICODE EC1, ISO 11890 to standards
	581-11	Theresa Weston	DuPont	Additional exception: 'Adhesives and sealants subject to consumer product VOC regulations or products that have a packaged weight of <1 lb and volume <16 oz. shall comply with VOC content limits in Table 806.2 (3). VOC content and exempt compound shall be determined by CARB Final Reg.
	582-11	Michael Schmeida	Tremco Sealants	Additional exception: 'Calculated theoretical data for TVOC emissions is acceptable as an alternative to the chamber testing prescribed in this section.'
	583-11	Randal Koller	Carlisle Construction	806.2.1 Single-ply roof membrane adhesives. Add climate zones 4 and 5 to the exempt list.
	584-11	Thomas Hutchinson	Hutchinson Design	806.2.1 Single-ply roof membrane adhesives. Add climate zones 4 and 5 to the exempt list.
	585-11	Thomas Hutchinson	Hutchinson Design	806.2.1 in climate zones 6, 7, and 8 as defined in the 2009 IECC and T-Butyl Acetate adhesives for single-ply roof membranes shall be exempt... in all climate zones.
<b>806.3 Architectural paints and coatings</b>	571-11	Stephany Mason	AQS	Add GGTM.P066 'Standard Method for Measuring and Evaluating Chemical Emissions from Building Materials, Finishes and Furnishings using Dynamic Environmental Chambers'
	572-11	Josh Jacobs	GREENGUARD	Comply with VOC content limits AND the VOC emissions limits in Table 806.2 (2). Remove 'alternative' emissions from following text. (Same as 570-11)
	576-11	Michael Schmeida	Tremco Sealants	Add c superscript 'Formaldehyde emission levels need not be reported for materials where formaldehyde is inherent, trace amounts and formaldehyde is not added by the manufacturer'
	577-11	Alfred Hodgson	BkA	Add 'The results of such testing shall be modeled to the office or school classroom scenario as defined in Standard Method V1.1'

	578-11	Josh Jacobs	GREENGUARD	Sealants shall comply with limits in CDPH Standard Method. Delete everything thereafter.
	582-11	Michael Schmeida	Tremco Sealants	Exception: 'Calculated theoretical data for TVOC emissions is acceptable as an alternative to the chamber testing prescribed in this section.
	586-11	Wenhao Chen	CDPH	Delete or the alternate, replace with 'additionally, not less than 85 percent by weight or volume of adhesives and sealants site-applied to floors, ceilings and walls shall meet the'
	587-11	Bradley Grams	EPA Region 5	Add 'For specific VOC emissions, additional methods determined by the code official or manufacturer's specifications shall be permitted to be utilized to supplement the methods stated herein.'
	588-11	Stephany Mason	AQS	Comply with VOC content limits AND the emissions limits in Table 806.2 (2). Remove 'alternative' emissions from following text.
	589-11	Reinhard Oppl	Eurofins	Add 'VOC content test results obtained by the test methods specified in ISO 11890 parts 1 and 2 shall be acceptable. Compliance with VOC content limits in accordance with European Decopaint Directive shall be acceptable.'
<b>806.4 Flooring</b>	576-11	Michael Schmeida	Tremco Sealants	Add c superscript 'Formaldehyde emission levels need not be reported for materials where formaldehyde is in inherent, trace amounts and formaldehyde is not added by the manufacturer'
	577-11	Alfred Hodgson	BkA	Add 'The results of such testing shall be modeled to the office or school classroom scenario as defined in Standard Method V1.1'
	582-11	Michael Schmeida	Tremco Sealants	Exception: 'Calculated theoretical data for TVOC emissions is acceptable as an alternative to the chamber testing prescribed in this section.
	589-11	Reinhard Oppl	Eurofins	Add 'VOC content test results obtained by the test methods specified in ISO 11890 parts 1 and 2 shall be acceptable. Compliance with VOC content limits in accordance with European Decopaint Directive shall be acceptable.'
	590-11	Bradley Grams	EPA Region 5	Add 'Where VOC testing is necessary for specific chemicals or as determined by the code official, methods determined by the manufacturer or approved sampling methods shall be used to supplement the standard method and accreditation requirement stated herein.'
	591-11	Alfred Hodgson	BkA	Add 'The results of such test shall be modeled to the office or classroom scenario defined in Standard method V1.1'
	592-11	Josh Jacobs	GREENGUARD	Add 'Where flooring with more than one district product layer is installed, the emissions from each layer shall comply with the requirements of this section.'

	593-11	Michael Schmeida	Tremco Sealants	Add 'For the purpose of this section, flooring shall be defined as any material that is on the floor of a room and that serves the primary function of being a decorative finishing and wear layer. Flooring does not include materials that serve primary functions other than decorative or finishing such as those materials that are categorized for VOC regulation purposes in Table 806.3 (1).'
	594-11	Sam Francis	American Wood Council	Delete Table 806.4(1) without substitution.
<b>806.5 Acoustical ceiling tiles and wall systems</b>	577-11	Alfred Hodgson	BkA	Add 'The results of such testing shall be modeled to the office or school classroom scenario as defined in Standard Method V1.1'
	589-11	Reinhard Oppl	Eurofins	Add 'VOC content test results obtained by the test methods specified in ISO 11890 parts 1 and 2 shall be acceptable. Compliance with VOC content limits in accordance with European Decopaint Directive shall be acceptable.'
	592-11	Josh Jacobs	GREENGUARD	Shall comply with... 'CDPH/EHLB/STANDARD METHOD V1.1'
	595-11	Bradley Grams	EPA Region 5	Add 'Where VOC testing is necessary for specific chemicals or as determined by the code official, methods determined by the manufacturer or approved sampling methods shall be used to supplement the standard method and accreditation requirement stated herein.'
	596-11	Alfred Hodgson	BkA	Add 'The results of such testing shall be modeled to the office or school classroom scenario as defined in Standard Method V1.1' (same as 577-11)
	597-11	Robert Wessel	Gypsum Ass.	Revise Table 806.5(1) to include gypsum board
	598-11	Robert Wessel	Gypsum Ass.	Revise Table 806.5(1) to include gypsum plaster
	599-11	Sam Francis	American Wood Council	Delete Table 806.5(1) without substitution.
	600-11	Jose Manuel Estrada	U.S. Gypsum Company	Revise Table 806.5(2) to delete superscript b
<b>806.6 Insulation</b>	577-11	Alfred Hodgson	BkA	Add 'The results of such testing shall be modeled to the office or school classroom scenario as defined in Standard Method V1.1'
	589-11	Reinhard Oppl	Eurofins	Add 'VOC content test results obtained by the test methods specified in ISO 11890 parts 1 and 2 shall be acceptable. Compliance with VOC content limits in accordance with European Decopaint Directive shall be acceptable.'

	592-11	Josh Jacobs	GREENGUARD	Shall comply with... 'CDPH/EHLB/STANDARD METHOD V1.1'
	595-11	Bradley Grams	EPA Region 5	Add 'Where VOC testing is necessary for specific chemicals or as determined by the code official, methods determined by the manufacturer or approved sampling methods shall be used to supplement the standard method and accreditation requirement stated herein.'
	601-11	Alfred Hodgson	BkA	Add 'used inside the weather-proofing membrane', 'The results of such testing shall be modeled to the office or school classroom scenario as defined in Standard Method V1.1'
	602-11	Lorraine Ross	Intech Consulting	Add 'Insulation shall be manufactured without added formaldehyde or a', 'when tested in accordance with ...'
	603-11	John Woestman	Kellen Company	Add table 806.6(2) to include insulation manufactured without formaldehyde.
<b>809.2 VOC Emissions Project Electives</b>	643-11	Amy Costello	Armstrong World Industries	Delete 809.2 Total VOC project and material electives without substitution
	644-11	Lorraine Ross	Intech Consulting	In 809.2.1, delete 'a minimum of 50%', 'shall be one or more of the flooring materials listed in Table 806.4(1), replace latter with '100 percent ... shall comply with Section 806.4'
	645-11	Lorraine Ross	Intech Consulting	In 809.2.2, delete 'a minimum of 50%', 'shall be one or more of the flooring materials listed in Table 806.4(1), replace latter with '100 percent ... shall comply with Section 806.4'
	646-11	Lorraine Ross	Intech Consulting	In 809.2.3, delete 'a minimum of 50%', 'shall be one or more of the flooring materials listed in Table 806.4(1), replace latter with '100 percent ... shall comply with Section 806.4'
	647-11	Jose Manuel Estrada	U.S. Gypsum Company	In 809.2.4, delete TVOC emission 'limit of $\leq 500 \text{ ug/m}^3$ '
	648-11	Bradley Grams	EPA Region 5	In 809.2.4, add 'Where VOC testing is necessary for specific chemicals or as determined by the code official, methods determined by the manufacturer or <i>approved</i> sampling methods shall be used to supplement the standard method and accreditation requirement stated herein.' Insert (new) 809.2.5 Add performance-Based Specific VOC Limit Elective.
	649-11	Josh Jacobs	GREENGUARD	Delete 809.2.4. Delete existing text. Insert (new) 806.7 text that retains the $500 \text{ }\mu\text{g/m}^3$ TVOC limit

	650-11	William Freeman Dwayne Fuhlhage Alfred Hodgson David Mudarri Stacey-Ann Taylor	RFCI PROSOCO BkA DM Consulting American Coatings	Delete without substitution: 809.2.4, Total VOC limit project elective and 202 TVOCs definition
	651-11	Lorraine Ross	Intech Consulting	Delete without substitution: 809.2.4, Total VOC limit project elective and 202 TVOCs definition