

**ISO 14021 Self Declared Environmental Claims (Type II)
Acceptance Criteria**

Client	Boral Material Technologies Inc.			
Product	Celceram®			
Claim	Celceram® is 100% Post-Consumer Recycled Material			
		Applicable?	Conforms?	Conformance/Objective Evidence
5.0 General Requirements Applying to All Claims				
5.2	Does the claim meet the general principals set out in ISO 14020?	Yes	Yes	Claim is verifiable, transparent and documented, not misleading and is a result of pollution prevention technology providing increased market opportunity for the environmental products.
5.3	An environmental claim that is vague or nonspecific or which broadly implies that a product is beneficial or benign shall not be used.	Yes	Yes	Claim is specific as to percent by weight and source being post-consumer.
5.4	An environmental claim of "free" shall only be made when the level of the specified substance is no more than that which would be found as an acknowledged trace contaminant or background level.	No		Claim does not apply to trace materials, or that product is free of anything.
5.5	No claim of achieving sustainability shall be made.	No	Yes	No sustainability claim is being made.
5.6	An environmental claim shall only be made without an explanatory statement if it is valid in all foreseeable circumstances with no qualifications.	No	Yes	Claim is made with explanatory statement of the percent of the product and the source of the recycled content as post-consumer per Clause 7 of the Standard.
5.7	Claims, including any explanatory statement, must meet all of the following:	Yes	Yes	
	a) shall be accurate and not misleading	Yes	Yes	Conforms based on examination of the process, that no added substances exist in the product other than recycled ash.
	b) shall be substantiated and verified	Yes	Yes	Verified by on-site inspection of process equipment, equipment drawings, inspection of laboratory test results for 100% of the manufacturing facilities of the product.
	c) shall be relevant to that particular product, and used only in an appropriate context or setting	Yes	Yes	Is relevant to the specific product Celceram. Content of claim does not vary based on user or use.

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	d) shall be stated in a manner that clearly indicates whether the claim applies to the complete product, or only to a product component or packaging, or to an element of a service	Yes	Yes	Claim is clearly applied to the product only. There is no packaging normally, and when super sack packaging is used plans for use of the Mobius symbol and claim will be in conformance to ISO14021 Clause 5. Currently there is no packaging being used or planned to be used that show the claim or use the Mobius symbol.
	e) shall be specific as to the environmental aspect or environmental improvement which is claimed	Yes	Yes	Claim is specific to post-consumer recycled content. Claim does not include environmental improvement aspects other than recycled content.
	f) shall not be restated using different terminology to imply multiple benefits for a single environmental change	Yes	Yes	Claim is specific to post-consumer recycled content. Claim does not include environmental improvement aspects other than recycled content.
	g) shall be unlikely to result in misinterpretation	Yes	Yes	Claim is very specific, states the exact recycled content, states the content is post-consumer and is specific to one product only.
	h) shall be true only in relation to the final product, considering all relevant aspects of the product life cycle in order to identify the potential for one impact to be increased in the process of decreasing another	Yes	Yes	Claim is specific to the final product as shipped directly from the Boral production facility to end users. BOLs were reviewed and verified that document product is directly shipped to customer from the loading facility at Boral's facility. Relevant life cycle aspects include fate of carpet backing into which the product goes. Carpet backing is recycled by Boral's major customers (Shaw Carpets, J&J Carpets and others) at end of carpet life.
	i) shall be presented in a manner which does not imply the product is endorsed or certified by an independent third party when it is not	Yes	Yes	There are no third party endorsements stated in the claim. However, Boral is considering use of NSF's verification in advertising efforts to promote the post-consumer recycled content benefits of Celceram. The use of the NSF verification must be substantiated through Environmental Claims verification per ISO14021.
	j) shall not directly or by implication suggest an environmental improvement which does not exist, nor shall it exaggerate the environmental aspect of the product to which the claim relates	Yes	Yes	Claim is specific to Celceram post-consumer recycled content only, and no other environmental benefit is implied or stated.

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	k) shall not be made if, despite the claim being literally true, it is likely to be misinterpreted by purchasers or is misleading through the omission of relevant facts	Yes	Yes	Claim is specific to Celceram post-consumer recycled content only, and no other environmental benefit is implied or stated.
	l) shall only relate to an environmental aspect that either exists or is likely to be realized during the life of the product	Yes	Yes	Claim relates to recycled content only, which was documented to be fact during the verification process for ISO14021.
	m) shall be presented in a manner that the claim and the explanatory statement should be read together (explanatory statement to be of reasonable size and proximity to the claim)	No		There are no clarifying statements included in the claim.
	n) shall, if a comparative assertion of superiority or improvement is made, be specific and make clear the basis for the comparison, specifically how recently the improvement was made	No		There are no claims of comparative nature being made.
	o) shall, if based on a pre-existing but undisclosed aspect, be presented in a manner that does not lead purchasers to believe that the claim is based on a recent process or product modification	Yes	Yes	There are no pre-existing or undisclosed aspects which relate to the post-consumer nature in Celceram other than the source of the recycled content material is a result of combustion of coal rather than from a manufacturing process per se.
	p) shall not be made where they are based on the absence of ingredients or features which have never been associated with the product category	Yes	Yes	Claim is not for absence of a material and is based on the content in the product.
	q) shall be reassessed and updated as necessary to reflect changes in technology, competitive products or other circumstances that could alter the accuracy of the claim	No		TBA if there are changes to the Boral process, fate of the waste at the power plant where generated or additives are introduced into Celceram which would alter its % composition.
	r) shall be relevant to the area where the corresponding impact occurs	No		The claim does not relate to a process improvement or localized environmental improvement as a result of a process improvement (see footnote to 5.8(r)).

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5.8 Use of Symbols to Make Environmental Claims			
5.8.2	Symbols used to make an environmental claim should be simple, easily reproducible and capable of being positioned and sized to suit the product	Yes	TBD. Boral has not decided whether to use the Mobius symbol as yet with Celceram. Normally there is no packaging involved (there are some customers receiving Celceram in super sack containers, but almost all is delivered in bulk shipment vehicles). Use of the Mobius was discussed during the verification, and Boral is aware of the requirements for use and requirements for clarifications.
5.8.3	Symbols used for one environmental claim should be easily distinguishable from other symbols for other environmental claims	No	No symbols being used at present (see 5.8.2 above).
5.8.4	Symbols used to indicate implementation of an environmental management system shall not be used in a manner that it could be misunderstood as an environmental symbol indicating the environmental aspects of a product	No	No symbols being used at present (see 5.8.2 above).
5.8.5	Natural objects shall be used only if there is a direct and verifiable link between the object and the benefit claimed	No	No symbols being used at present (see 5.8.2 above).
5.9 Other Information or Claims			
5.9.2	Words, numbers or symbols used for non-environmental claim purposes shall not be used in a manner that is likely to be misunderstood as making an environmental claim	No	The claim qualifies as an environmental claim.
5.9.3	ISO14021 Element 5.10 symbols shall not be modified to relate the symbol to a specific brand, company or corporate position	No	No symbols being used at present (see 5.8.2 above). Boral has not decided whether to use the Mobius symbol as yet with Celceram. Normally there is no packaging involved (there are some customers receiving Celceram in super sack containers, but almost all is delivered in bulk shipment vehicles). Use of the Mobius was discussed during the verification, and Boral is aware of the requirements for use.
5.10 Specific Symbols			

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5.10.2.1	If used, the Mobius Loop shall meet the graphical requirements of ISO 7000, Symbol 1135, with enough contrast so that the symbol is clear and distinguishable.	No		Boral has not decided whether to use the Mobius symbol as yet with Celceram. Normally there is no packaging involved (there are some customers receiving Celceram in super sack containers, but almost all is delivered in bulk shipment vehicles). Use of the Mobius was discussed during the verification, and Boral is aware of the requirements for use.
5.10.2.2	If there is any potential for confusion about whether the Mobius Loop applies to the product or the packaging, the symbol shall be accompanied by an explanatory statement.	No		See above.
5.10.2.3	If a symbol is used for claims of recyclable or recycled content, the symbol shall be the Mobius Loop per Section 7.7 and 7.8 of the Standard	No		See above.
5.10.2.4	The Mobius Loop shall only be used for claims of recycled content and recyclable per Section 7.7 and 7.8 of the Standard	No		See above.
6.0 Evaluation and Claim Verification Requirements				
6.2.1	Prior to making the claim, evaluation measures shall be implemented to achieve reliable and reproducible results necessary to verify the claim	Yes	Yes	Boral has had its Celceram claim evaluated by NSF, which presents this verification in evidence. NSF has utilized as its criteria for evaluation ISO14021, 16 CFR 260 Guidelines and NSF140, in addition to the general principals described in ISO14020. Product is made using industrial equipment in-place and at substantial costs. Design changes are not likely given the nature of the production process and product being made.
6.2.2	The evaluation shall be fully documented and retained by the claimant for purposes of information disclosure for the period the product is on the market, and for a reasonable period thereafter taking into account the life of the product	Yes	Yes	In addition to the verification templates employed for ISO14021 and 16 CFR 260, please see auditor report, notes and NSF's Environmental Claims Letter. Boral is cognizant of the requirement to retain results of the Evaluation, and proposes to do so for xxx years from date of claim verification.

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6.3	Comparative Claims (Use the Comparative Claims worksheet for evaluation of comparative environmental claims).	No		Not a comparative claim.
6.4	Methods for evaluation and claim verification shall follow, in order of preference, International Standards, recognized standards having international acceptability, or industry or trade methods which have been subjected to peer review.	Yes	Yes	NSF's verification took into consideration the ISO14021 and ISO14020 Standards firstly, the federal guideline 16 CFR 260 secondly and the industry trade guideline NSF 140 lastly, including knowledge of current peer review initiatives regarding NSF 140's definition of pre-consumer as it applies to post-combustion ash. Please see the Verification Report.
6.5.1	Self-declared environmental claims shall only be considered verifiable if such verification can be made without access to confidential business information - claims shall not be made if they can only be made using confidential business information	Yes	Yes	Boral has not asserted confidentiality for any information required for this claims verification activity. All production records, process design detail, visual access to the process, laboratory product testing records and interviews with personnel responsible for management and operation of the Celceram process were provided willingly and freely during the verification.
6.5.2	If not voluntarily released, the information necessary to validate the claim shall be disclosed, upon request, at a reasonable cost, time and place to any person seeking to verify the claim	No		All information was voluntarily released to NSF's verifier.
6.5.3	The minimum information required to be documented and retained per Section 6.2 of the Standard shall include the following:			
	a) identification of the standard or method used	Yes	Yes	Primary Standards ISO14021 and ISO14020 criteria and methods were used. Laboratory product testing used ASTM C618 and AASHTO M 295 analytical methods to determine product purity with use of DOT approved composite sampling.

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	b) documentary evidence, if verification of the claim cannot be made by testing the finished product	Yes	Yes	Laboratory analytical results made available per visual inspection of the labs at Juliette and Mt. Pleasant, and from data base for entire year. Verifier selected random dates for retrieval of analytical data base records, which were full lab report scans of content results. In addition, verifier interviewed Melissa Garcia, QA/QC Manager and Robert Wilson, Supervisor for the Juliette facility and Armando Alva, Lab Supervisor for the Mt. Pleasant facility with respect to lab procedure, how samples are taken, analyzed and stored for later re-testing. Sample bags also observed by verifier at both sites.
	c) test results, where necessary for claim verification	Yes	Yes	See above.
	d) if testing is carried out by an independent party, the name and address of the independent party	Yes	Yes	Testing performed by Boral staff on-site and as a requirement of their customers, and for product quality QA/QC purposes.
	e) evidence that the claim conforms with requirements of Sections 5.7 h) and r) of this Standard	Yes	Yes	Claim is specific to the final product as shipped directly from the Boral production facility to end users. BOLs were reviewed and verified that document product is directly shipped to customer from the loading facility at Boral's facility. Relevant life cycle aspects include fate of carpet backing into which the product goes. Carpet backing is recycled by Boral's major customers (Shaw Carpets, J&J Carpets and others) at end of carpet life. With respect to 5.7(r), the product claim is not for process improvements as related to nearby plant environment (although less waste is disposed in landfill as a result of the process, no environmental improvement claim is made for this).
	f) if a comparative claim with other products, then a description of the method used, the results of any tests of those products, and any assumptions made shall clearly be stated	No		No comparative claims are made.

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	g) evidence the claimant's evaluation gives assurance of the continuing accuracy of the claim during the period over which the product is on the market and for a reasonable period thereafter, taking into account the life of the product	Yes	Yes	Verification of the process design and lab test requirements demonstrates ability to continuously produce product with the recycled content claimed. Process does not include any additives or equipment to include additives, has no design to accept anything other than combustion waste ash into its equipment, and the design has no other option for the waste stream but to go to an ash landfill if not into Celceram. (Please see design drawings and verification report).
7.0 Specific Requirements for Selected Claims				
	Clause 7 provides interpretation and usage qualifications for selected terms commonly used in self-declared environmental claims. Clause 7 supplements but does not replace the requirements in other clauses of the Standard.	Yes	Yes	See tab for Clause 7.8 Recycled Content for specific requirements of the Standard for this claim. In addition, please see verification notes and report for verification of 16 CFR 260 and NSF140 specific to this claim.
	(Use appropriate audit tool sheets for specific claim requirements)	Yes	Yes	See "Recycled Content" tab in this workbook, and the 16 CFR 260 workbook.

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7.8 Recycled Content				
7.8.1.1	Recycled content and its associated terms shall be interpreted as follows:			
	a) Recycled content - Proportion by mass of recycled material in a product or packaging.	Yes	Yes	Claim is for 100% recycled content. The claim uses mass percentage as its basis and is documented by laboratory analyses using ASTM methods and design of the production system which does not evidence any additive material streams before or after production and loading into delivery vehicles.
	Only pre-consumer and post-consumer materials shall be considered as recycled content, consistent with the following usage of terms:	Yes	Yes	See below.
	1) Pre-consumer material - Material diverted from a waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.	No		

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	2) Post-consumer material - Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.	Yes	Yes	On site verification of process design shows 100% of raw material into Boral process is from the Scherer and Monticello Power Plants' electrostatic precipitator/bag house post combustion ash collection systems. Post-combustion ash is a waste product of coal combustion and is not useable or recyclable back to the power plant processes, and is piped directly in a water slurry to power plant ash landfills for disposal (Scherer Station) or loaded into rail car and delivered to on-site landfill (Monticello Station). At Scherer the Boral process extracts a portion of the ash waste stream into Boral bag houses or cyclones prior to the addition of water. At Monticello, all waste ash is air conveyed to Boral who then separates by particle size using cyclones. Ash not meeting size or customer specification is loaded into rail cars by Boral and shipped to the on-site landfill. In both facilities, the Boral extracted waste ash is filtered to remove large sized particles and becomes Celceram. Celceram is then loaded directly into bulk delivery vehicles, samples taken for lab analysis, then shipped directly to customers. (See process flow diagrams for the Scherer and Monticello locations)
	b) Recycled Material - Material that has been reprocessed from recovered (reclaimed) material by means of a manufacturing process and made into a final product or into a component for incorporation into a product.	Yes	Yes	Boral's raw material consists entirely of waste material from power plant combustion and is re-processed by Boral to remove solid impurities before shipment to end users of Celceram. Celceram is then used by Boral customers as a filler ingredient in carpet backing as the end use.

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	c) Recovered (reclaimed) Material - Material that would have otherwise been disposed of as waste or used for energy recovery, but was instead been collected and recovered (reclaimed) as a material input, in lieu of new primary material, for a recycling or a manufacturing process.	No		The material collected by Boral, although would otherwise been disposed as waste, is the actual material used in Borals product Celceram, not a component or in lieu of primary material. Waste ash physically must go to landfill disposal at both locations due to the facility design at both generating stations. There were no physical equipment or shipment mechanisms other than for landfill disposal at either site.
7.8.1.2	Consideration shall be given to the fact that a higher percentage of recycled content does not necessarily imply a lower environmental impact. The recycled content claim, in particular, should be used with discretion.	Yes	Yes	The claim does not purport lower environmental impact, just the recycled content of the product.
7.8.2.1	Where a claim of recycled content is made, the percentage of recycled material shall be stated.	Yes	Yes	The claim states the numeric percentage of recycled content based on mass.
7.8.2.2	The percentage recycled content for products and packaging shall be separately stated and shall not be aggregated.	Yes	Yes	There is no claim with respect to recycled content of packaging. The claim is solely for the product recycled content.
7.8.3.1	When a claim of recycled content is made, the use of a symbol is optional.	Yes	Yes	Use of a symbol has not been decided, and is currently not used. However, discussion of the Mobius symbol and understanding of its use was conducted during verification. In addition, use of the NSF mark was also discussed.
7.8.3.2	If a symbol is used for a recycled content claim, it shall be the Mobius Loop accompanied by a percentage value as "X%", where X is the recycled content expressed as a whole number calculated in accordance with Section 7.8.4 of this Standard.	No		See above.

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	The percentage value shall be located either inside the Mobius Loop or outside and immediately adjacent to the Mobius Loop.	No		See above.
7.8.3.3	If the percentage of recycled content is variable, it may be expressed with statements such as "at least X%", or "greater than X%".	No		In the present design and expected future use, the percent recycled is not expected to vary from 100%.
7.8.3.5	Where a symbol is used it may be accompanied by material identification.	No		No symbol is being used at present.
7.8.4	Evaluation Methodology			
7.8.4.1	Evaluation shall be undertaken in accordance with Section 6 of the Standard.	Yes	Yes	Please see the verification details presented for Clause 6 in the General Requirements tab of this workbook.
	Recycled content must be expressed quantitatively as a percentage, the mass of material obtained from the recycling process, after accounting for losses and other diversions, shall be used.	Yes	Yes	Please see prior discussion. The claim is based on mass percentage. There are no losses or other diversions from the point of percent determination (lab analyses of the product). Product is shipped from Boral without post-analytical additives or removals from the collection/delivery vehicles or super sacks used to take the product directly from the Boral process to the customer.
7.8.4.2	Verification of the source and quantity of the recycled materials may be carried out through the use of purchasing documentation and other available records.	Yes	Yes	Waste combustion ash is diverted from landfill directly by Boral's process, into their bag houses, then on to loading into delivery vehicles at Borals dedicated truck loading station. Tare weight of the trucks and final weights after loading are recorded in Borals automated weigh system along with the lab test results. Records are kept manually for six months and indefinitely by the automated system for retrieval and financial reporting. By on-site verification, there are no other waste stream, feeds or additive streams physically present, and the waste ash goes directly to Boral equipment for processing and loading to delivery vehicles.

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