

**ICC-ES SAVE: Verification of Attributes Report™****VAR-1016**

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**DIVISION: 07 00 00—THERMAL AND MOISTURE  
PROTECTION****Section: 07 41 43—Composite Roof Panels****REPORT HOLDER:**

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**EVALUATION SUBJECT:**

**ROOFING SHEETS: ONDULINE CLASSIC, ONDULINE CLASSIC DR, ONDULINE CLASSIC DRC, ONDULINE 235 CLASSIC, ONDULINE 235 PRO, ONDULINE PLUS, ONDULINE PLUS DR, ONDULINE PRO/LCO MEXICO, ONDUTOIT PPHR, ECOFLEX 10, MARFIL, ONDUTOIT 9, DURO E/COROLINE/SUPERAUTRICHE, ONDULUX ECO, ONDULUX ECO COLOR, SB25, BRICOPLAQUE, ONDULINE STANDARD, OND BASE 9 ONDES, ONDEVER 63, CORALINE, ANJUNING, CLASSICO 95, ONDECO, METALINE PLUS, DELTALINE COLOR; ROOFING TILES: ONDUVILLA, ONDUVILLA COLOR, ONDUVILLA BLACK; ROOFING UNDER-LAYERS: ISOLINE, RUFOLINE.S, BAJOTEJA 235, BT50, BT150, BT200, BT235, DELTALINE 95, ONDABASE 190, ONDABASE 220, DECOFLEX 220, TRADIFLEX 190, TRADIFLEX 220, TRADIFLEX 235, DELTALINE 190, DECOFLEX 190, DECOFLEX 235**

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**1.0 EVALUATION SCOPE****Compliance with the following evaluation guideline:**

ICC-ES Evaluation Guideline for Determination of Recycled Content of Materials (EG101), dated October 2008 (editorially revised July 2009).

**Compliance eligibility with the applicable sections of the following green building rating systems, standards and codes:**

- 2010 California Green Building Standards Code (CALGreen), Title 24, Part 11 (see Table 2 for details)
- National Green Building Standard (ICC 700-2008) (see Table 3 for details)
- LEED 2009 for New Construction and Major Renovations (see Table 4 for details)
- LEED 2009 for Schools New Construction and Major Renovations (see Table 5 for details)

- LEED for Homes 2008 (see Table 6 for details)
- ANSI/GBI 01-2010, Green Building Assessment Protocol for Commercial Buildings (see Table 7 for details)

## 2.0 USES

Onduline Roofing Sheets and Onduline Roofing Tiles are used as steep-slope roof covering materials. Onduline Under-layers are used as under-roof tile roof coverings.

## 3.0 DESCRIPTION

### 3.1 Onduline Roofing Sheets:

Onduline Roofing Sheets are corrugated roofing sheets consisting of a homogenous base sheet composed of cellulose fiber that is pre-pigmented with resin and coloring and impregnated with bitumen asphalt under pressure and heat. The sheets are produced in a variety of size and colors. Onduline Roofing Sheets contain the minimum type and percentage of recycled content, by weight, as set forth in Table 1.

### 3.2 Onduline Roofing Tiles:

Onduline Roofing Tiles are corrugated roofing tiles that have the same material composition as the roofing sheets described in Section 3.1, but the tiles are smaller in size. Onduline Roofing Tiles contain the minimum type and percentage of recycled content, by weight, as set forth in Table 1.

### 3.3 Onduline Roofing Under-layers:

The Onduline Roofing Under-layers are ribbed underlayment sheets composed of bitumen and cellulose fibers. Onduline Roofing Under-layers contain the minimum type and percentage of recycled content, by weight, as set forth in Table 1.

## 4.0 CONDITIONS

### 4.1 Code Compliance:

Evaluation of Onduline Roofing Sheets, Roofing Tile and Roofing Under-layers for compliance with the International Codes is outside the scope of this evaluation report, and

evidence of compliance with all applicable code requirements must be submitted by the permit applicant to the Authority Having Jurisdiction (AHJ) for approval.

### 4.2 Green Rating Systems, Standards and Code Eligibility:

The information presented in Tables 2 through 7 of this report provides a matrix of areas of evaluation and corresponding limitations and/or additional project-specific requirements and offers benefit to individuals who are assessing eligibility for credits or points.

The final interpretation of the specific requirements of the respective green building rating system, standards and/or code rests with the developer of that specific rating system or standard, or the AHJ, as applicable.

Compliance for items noted as “Verified Attribute” is subject to any conditions noted in the tables. Decisions on compliance for those items noted as “Eligible for Points” in Tables 2 through 7 rest with the user of this report, and those items are subject to the conditions noted. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. Rating systems or standards often provide supplemental information as guidance.

## 5.0 BASIS OF EVALUATION

The information in this report, including the “Verified Attribute,” is based upon ICC-ES EG101. (Evaluation applies to CALGreen Sections A.4.405.3 and A5.405.4; ICC 700 Section 604.1; LEED NC MR Credit 4; LEED Schools MR Credit 4; LEED Homes MR Credit 2.2; and ANSI/GBI 01 Section 10.2.1.1.)

## 6.0 IDENTIFICATION

Onduline Roofing Sheets, Roofing Tiles and Roofing Under-layers are identified with the manufacturer’s name, address and telephone number; the product name; and the VAR number (VAR-1016).

TABLE 1—MINIMUM RECYCLED CONTENT BY WEIGHT SUMMARY

PLANT LOCATION	PRODUCT TYPE	PRODUCT NAME	% PRE-CONSUMER RECYCLED CONTENT	% POST-CONSUMER RECYCLED CONTENT	% MINIMUM RECYCLED CONTENT
France	Roofing sheets	Onduline Classic	5	45	50
		Onduline Classic DR	5	45	50
		Onduline Plus	4.8	45.2	48
		Onduline Plus DR	4.8	45.2	48
		Onduline PRO/LCO Mexico	4.7	45.3	47
		Onduline 235 Classic	5	45	50
		Onduline 235 PRO	4.7	45.3	47
		Ondutoit PPHR	4.9	45.1	49
		Ecoflex 10	4.7	45.3	47
		Marfil	4.8	45.2	48
		Ondutoit 9	4.8	45.2	48
		Duro E/Coroline/Superautriche	4.9	45.1	49
		Ondalux Eco	4.9	45.1	49
		Ondalux Eco Color	4.7	45.3	47
	SB25	5.1	44.9	51	
	Bricoplaque	4.6	41.4	46	
	Under-layers	Tradiflex 190	4.9	45.1	49
Tradiflex 235		4.9	45.1	49	
Decoflex 190		4.6	45.4	46	
Decoflex 235		4.7	45.3	47	
Turkey	Roofing sheets	Onduline Classic	0	48	48
	Roofing tiles	Onduvilla Black	0	50	50
		Onduvilla	0	48	48
	Under-layers	Isoline	0	48	48
Rufoline.S		0	48	48	
Spain	Roofing sheets	Onduline Classic	0	46	46
	Under-layers	Bajoteja 235	0	48	48
		BT50	0	47	47
		BT150	0	46	46
		BT200	0	47	47
BT235	0	46	46		
Italy	Roofing sheets	Onduline Classic	0	49	49
		Onduline Plus	0	47	47
		Ondever 63	0	46	46
		Ondeco	0	46	46
		Classico 95	0	50	50
		Metaline Plus	0	46	46
		Deltaline Color	0	44	44
	Roofing tiles	Onduvilla Black	0	50	50
		Onduvilla	0	49	49
		Onduvilla Color	0	47	47
	Under-layers	Deltaline 95	0	49	49
		Ondabase 220	0	50	50
		Decoflex 220	0	47	47
Tradiflex 220		0	50	50	
Deltaline 190		0	50	50	
Ondabase 190		0	50	50	
Isoline	0	48	48		
Poland	Roofing sheets	Onduline Classic	0	50	50
		Onduline Classic Dr	0	49	49
		Onduline Standard	0	49	49
		Ond Base 9 Ondes	0	48	48
Russia	Roofing sheets	Onduline Classic	0	47	47
Brazil	Roofing sheets	Onduline Classic	0	49	49
		Onduline Classic DR	0	48	48
		Onduline Classic DRC	0	47	47
		Coraline	0	45	45
Malaysia	Roofing sheets	Onduline Classic	0	49	49
		Onduline DR	0	48	48
		Anjuning	0	49	49
	Under-layers	Isoline	0	50	50

TABLES 2 THROUGH 7

Section Number	Section Intent	Possible Points	Conditions Of Use To Qualify For Points	Finding
<b>TABLE 2—SUMMARY OF AREA OF ELEGIBILITY WITH THE 2010 CALIFORNIA GREEN BUILDING STANDARDS CODE</b>				
A4.405.3 A5.405.4	Recycled content	----	To achieve Tier 1 - Use materials with a postconsumer or preconsumer recycled content value (RCV) for a minimum of 10% of the total value, based on estimated cost of materials on the project. To achieve Tier 2 - Use materials with a postconsumer or preconsumer RCV for a minimum of 15% of the total value, based on estimated cost of materials on the project. recycled content value. RCV shall be determined as follows: RCV = (% PC X material cost) + 0.5 (% PI X material cost) <b>Notes:</b> 1. PC means post consumer waste. 2. PI means post industrial waste.	•
<b>TABLE 3—SUMMARY OF AREA OF ELEGIBILITY WITH THE ICC-700 NATIONAL GREEN BUILDING STANDARD</b>				
604.1	Use two or more major and/or minor building materials containing recycled content	2 6 max	2, 4 or 6 points may be earned when products are used with another major building component with recycled content of 25% < 50%; 50% < 75%; ≥ 75%, respectively.	•
<b>TABLE 4—SUMMARY OF AREA OF ELEGIBILITY WITH USGBC'S LEED 2009 FOR NEW CONSTRUCTION</b>				
MR 4	Recycled content	1 2 max	To earn 1 point use materials with recycled content such that the sum of postconsumer recycled content plus 1/2 of the preconsumer content constitutes at least 10%, based on cost, of the total value of the materials in the project. To earn 2 points use 20% or more.	•
<b>TABLE 5—SUMMARY OF AREA OF ELEGIBILITY WITH USGBC'S LEED 2009 FOR SCHOOLS</b>				
MR 4	Recycled content	1 2 max	To earn 1 point use materials with recycled content such that the sum of postconsumer recycled content plus 1/2 of the preconsumer content constitutes at least 10%, based on cost, of the total value of the materials in the project. To earn 2 points use 20% or more.	•
<b>TABLE 6—SUMMARY OF AREA OF ELEGIBILITY WITH USGBC'S LEED FOR HOMES 2008</b>				
MR 2	Recycled content	1 2 max	To earn 0.5 point use roofing materials with recycled content with a minimum of 25% postconsumer. Preconsumer content is counted at 1/2 of the amount of the postconsumer content.	•
<b>TABLE 7—SUMMARY OF AREA OF ELEGIBILITY WITH ANSI/GBI 01 – 2010</b>				
10.1.2.1	Materials content - Assemblies	1 8 max	Recycled postconsumer or postindustrial (preconsumer) content materials accounted for 1% to 20% or more of building materials.  Percentage is calculated as 100 x A (total cost or weight of recycled content materials) ÷ B (total cost or weight of all building materials).	•
○	= Eligible for points			
•	= Verified attribute			