

GAF Green Building Playbook

Using GAF Products on LEED® Projects



2013



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¹ LEED® and the related logo is a trademark owned by the U.S. Green Building Council and is used with permission.

GAF Green Building Playbook

LEED® v2009 for New Construction and Major Renovations

About GAF

Founded in 1886, GAF has become North America's largest manufacturer of commercial and residential roofing. Our success in growing the company to nearly \$3 billion in sales has been based on our unique philosophy of:

- Helping property owners & architects to make their best and safest roofing choices
- Helping support distributors and roofing contractors build their businesses and avoid hassles

GAF is your best and safest choice! For more information, visit www.gaf.com.

About LEED®

The LEED® (Leadership in Energy and Environmental Design) Green Building Rating System is a voluntary, consensus-based market-driven program that provides third-party verification of high-performance, energy-efficient sustainable buildings. The LEED® certification system is a program that awards a building for satisfying specified green building criteria and requirements. GAF currently references the LEED® v2009 NC¹ rating system for this GAF Playbook. GAF is a member of the U.S. Green Building Council. LEED® v4 will be coming soon! For more information, visit www.usgbc.org/leed.

Why LEED®?

The built environment has a profound impact on our natural environment, economy, health and productivity. Green building practices can substantially reduce or eliminate negative environmental impacts and improve existing unsustainable design, construction and operational practices. Working on a LEED® project? Please visit <http://gaf.ecoscorecard.com> for LEED® documentation resources related to GAF products.

Benefits of a "Green Building"

Environmental:

- Protects and enhances ecosystems and biodiversity
- Improves air and water quality
- Conserves and limits natural resource use and reduces solid waste going to landfills

¹ LEED® v2009 New Construction addresses design and construction activities for both new buildings and major renovations of existing buildings. The LEED® credits referenced in this Playbook may also apply to various other LEED® rating systems.

Economic:

"Benefits of a Green Building"

- Lowers building's operational costs
- Higher building values, assets and profits
- Attracts and retains superior employees
- Improves employee productivity, satisfaction and reduces sick days
- Incentives for LEED® and other energy efficiency improvements are available at the federal, state and local levels. For more information on relevant incentives, visit www.DSIREusa.org or www.energystar.gov.

Health & Community:





"Benefits of a Green Building"

- Enhances air, thermal and acoustical quality
- Higher levels of occupant comfort and health
- Reduces the strain on the local infrastructures
- Improves overall quality of life

LEED® v2009 NC Certification Levels:

Certified	40-49 points
Silver	50-59 points
Gold	60-79 points
Platinum	80 points and above

LEED® v2009 NC Addresses 7 Topics:

	Sustainable Site (SS)	26 pts.
	Water Efficiency (WE)	10 pts.
	Energy & Atmosphere (EA)	35 pts.
	Materials & Resources (MR)	14 pts.
	Indoor Environmental Quality (IEQ)	15 pts.
	Innovation in Design (ID)	6 pts.
	Regional Priority (RP)	<u>4 pts.</u>

Total: 110 pts.

Sustainable Sites (SS)

SS Credit 5.1 (1 Point)	Site Development: Protect or Restore Habitat
Intent	To conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.
GAF's Eligible ¹ Option	Specify GAF GardenScapes™ vegetative roof system to contribute towards LEED® credit requirements ² under "Case 2" option.
ID ³ Bonus Credit	SSc5.1 is eligible for an exemplary performance point when achieving a higher level under Case 2.

SS Credit 5.2 (1 point)	Site Development: Maximize Open Space
Intent	To promote biodiversity by providing a high ratio of open space to development footprint.
GAF's Eligible ¹ Option	Specify GAF GardenScapes™ vegetative roof system to contribute towards LEED® credit requirements ² .
ID ³ Bonus Credit	SSc5.2 is eligible for an exemplary performance point by doubling the open/vegetative space requirements.

SS Credit 6.1 (1 point)	Stormwater Design: Quantity Control
Intent	To limit disruption of natural hydrology by reducing impervious cover, increasing on-site infiltration, reducing or eliminating pollution from stormwater runoff and eliminating contaminants.
GAF's Eligible ¹ Option	Specify GAF GardenScapes™ vegetative roof system to contribute towards LEED® credit requirements ² .
ID ³ Bonus Credit	SSc6.1 is eligible for a bonus point by achieving and documenting exemplary performance levels.

¹ Products are not reviewed or certified under LEED®. LEED® credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

² Refer to www.usgbc.org/leed for complete credit requirements.

³ ID stands for Innovation in Design, one of seven LEED® credit categories.

SS Credit 6.2 (1 point)	Stormwater Design: Quality Control
Intent	To limit disruption of natural water flows by managing stormwater runoff.
GAF's Eligible ¹ Option	Specify GAF GardenScapes™ vegetative roof system to contribute towards LEED® credit requirements ² under "Case 2" option.
ID ³ Bonus Credit	SSc6.2 is eligible for exemplary performance by doubling the open/vegetated space requirements, providing only 1 exemplary performance point is earned for SSc6.1 and SSc6.2.

SS Credit 7.1 (1 point)	Heat Island Effect: Nonroof
Intent	To reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impacts on microclimates and human and wildlife habitats.
GAF's Eligible ¹ Option	Specify GAF GardenScapes™ vegetative roof system and/or GAF Solar Roofing System to contribute towards LEED® credit requirements ² under Option 2.
ID ³ Bonus Credit	SSc7.1 is eligible for a bonus point under Option 2 if 100% of the on-site parking spaces have been located undercover and any roof used to shade or cover parking must have a minimum SRI of 29, be a vegetated roof, or be covered by solar panels.



Image: GAF GardenScapes™ Vegetative Roofing System

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² Refer to www.usgbc.org/leed for complete credit requirements.

³ ID stands for Innovation in Design, one of seven LEED® credit categories.

SS Credit 7.2 (1 point)	Heat Island Effect: Roof									
Intent	To reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human and wildlife habitats.									
GAF's Eligible¹ Option	Specify qualifying GAF roofing membrane and/or GardenScapes™ vegetative roof system to reduce heat absorptions to contribute towards LEED® credit requirements ² .									
  	<p>Credit Requirements²:</p> <p>Option 1:</p> <ul style="list-style-type: none"> Use roofing materials having a Solar Reflectance Index (SRI) equal to or greater than the values in Table 1 for a minimum of 75% of the roof surface. <p>Table 1</p> <table border="1"> <thead> <tr> <th>Roof Type</th> <th>Slope</th> <th>SRI</th> </tr> </thead> <tbody> <tr> <td>Low-sloped roof</td> <td>≤ 2:12 (15%)</td> <td>78</td> </tr> <tr> <td>Steep-sloped roof</td> <td>> 2:12 (15%)</td> <td>29</td> </tr> </tbody> </table> <p>Roofing materials having a lower SRI value than those listed in Table 1 may be used if the weighted rooftop SRI average meets the following criteria:</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> $\frac{\text{Area Roof Meeting Min. SRI} \times \text{SRI installed Roof}}{\text{Total Roof Area}} \geq 75\%$ </div> <p>Alternatively, the following equation may be used to calculate compliance:</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> $\frac{[\text{Area of Roof A} \times \frac{\text{SRI of Roof A}}{\text{Required SRI}}] + [\text{Area of Roof B} \times \frac{\text{SRI of Roof B}}{\text{Required SRI}}] + \dots}{\text{Total Roof Area}} \geq 0.75$ </div> <p>Option 2:</p> <ul style="list-style-type: none"> Install a vegetated roof for at least 50% of the roof area. 	Roof Type	Slope	SRI	Low-sloped roof	≤ 2:12 (15%)	78	Steep-sloped roof	> 2:12 (15%)	29
Roof Type	Slope	SRI								
Low-sloped roof	≤ 2:12 (15%)	78								
Steep-sloped roof	> 2:12 (15%)	29								

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² Refer to www.usgbc.org/leed for complete credit requirements.

	<p>Option 3:</p> <ul style="list-style-type: none"> Install high albedo and vegetated roof surfaces that, in combination, meet the following criteria: <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> $\frac{\text{Area Meeting Min. SRI}}{0.75} + \frac{\text{Area Vegetated}}{0.5} \geq \text{Total Roof Area}$ </div> <p>Alternatively, the following equation may be used to calculate compliance:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> $\frac{[\text{Area of Roof A}] \times \frac{\text{SRI of Roof A}}{\text{Required SRI}} + [\text{Area of Roof B}] \times \frac{\text{SRI of Roof B}}{\text{Required SRI}} + \text{Area of Vegetated Roof}}{0.75 + 0.5} \geq \text{Total Roof Area}$ </div>
<p>ID¹ Bonus Credit</p>	<p>SSc7.2 is eligible for an exemplary performance point if 100% of the project's roof area (excluding mechanical equipment, solar energy panels, skylights, and other appurtenances) consists of a vegetated roof system.</p>

¹ ID stands for Innovation in Design, one of seven LEED® credit categories.

Eligible¹ GAF Products

SSc7.2: Heat Island Effect: Roof

Title	Product Area	Reflectivity	Emissivity	SRI Index
Ruberoid® EnergyCap™ SBS 30 FR (white)	Cap Sheet	0.80	0.84	99
GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet (white)	Cap Sheet	0.80	0.90	100
Ruberoid® EnergyCap™ Torch Plus FR (white)	Cap Sheet	0.80	0.84	99
Ruberoid® EnergyCap™ SBS HeatWeld Plus FR (white)	Cap Sheet	0.75	0.82	91
Ruberoid® EnergyCap™ Torch Granule FR (white)	Cap Sheet	0.84	0.81	104
Ruberoid® EnergyCap™ Mop FR (white)	Cap Sheet	0.73	0.83	89
TOPCOAT® Surface Seal SB (white)	Coatings	0.84	0.90	106
TOPCOAT® Surface Seal SB over APP Smooth (white)	Coatings	0.84	0.90	106
TOPCOAT® Surface Seal SB over APP Granule (white)	Coatings	0.84	0.90	106
TOPCOAT® MB Plus (white)	Coatings	0.83	0.88	104
TOPCOAT® MB Plus over APP Smooth (white)	Coatings	0.83	0.88	104
TOPCOAT® MB Plus over APP Granule (white)	Coatings	0.83	0.88	104
TOPCOAT® Elastometric Roofing Membrane (white)	Coatings	0.85	0.90	107
TOPCOAT® Fireshield® SB (white)	Coatings	0.81	0.90	101
TOPCOAT® Fireshield® MB (white)	Coatings	0.72	0.91	89
TOPCOAT® Fireshield® MB w/ #10 Aggregate (white)	Coatings	0.79	0.88	98
TOPCOAT® Fireshield® EPDM (white)	Coatings	0.75	0.90	93
TOPCOAT® EnergyCote™ Elastometric Coating (white)	Coatings	0.91	0.87	115
TOPCOAT® EPDM Coating (white)	Coatings	0.86	0.88	108
MATRIX™ 322 (white)	Coatings	0.87	0.87	110
Timberline® Cool Series- (Cool Antique Slate)	Shingle Products	0.26	0.92	29
Timberline® Cool Series- (Cool Barkwood)	Shingle Products	0.26	0.92	29
Timberline® Cool Series- (Cool Weathered Wood)	Shingle Products	0.26	0.92	29

¹ Products are not reviewed or certified under LEED®. LEED® credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

Eligible¹ GAF Products (Continued)
SSc7.2: Heat Island Effect: Roof

Title	Product Area	Reflectivity	Emissivity	SRI Index
EverGuard® TPO FB Ultra (white)	Single Ply Systems	0.76	0.9	94
EverGuard® TPO FB Ultra (tan)	Single Ply Systems	0.65	0.90	79
EverGuard® PVC (white)	Single Ply Systems	0.87	0.95	111
EverGuard® EGFB (white)	Single Ply Systems	0.85	0.86	107
EverGuard® TPO (white)	Single Ply Systems	0.76	0.90	94
EverGuard® TPO (tan)	Single Ply Systems	0.65	0.90	79
EverGuard® Freedom TPO (white)	Single Ply Systems	0.76	0.90	94
EverGuard® Freedom TPO (tan)	Single Ply Systems	0.65	0.90	79
EverGuard® Energy Tan TPO	Single Ply Systems	0.72	0.89	88
EverGuard® Steep Slope TPO (white)	Single Ply Systems	0.76	0.90	94
EverGuard® Energy Gray TPO	Single Ply Systems	0.72	0.87	88
EverGuard® Extreme™ TPO (white)	Single Ply Systems	0.84	0.84	105
Products that May be Eligible¹				
Timberline® Cool Series- (Cool White)	Shingle Products	0.26	0.85	24²
Royal Sovereign® Shingles (white)	Shingle Products	0.27	0.91	28²
Sentinel® Shingles (white)	Shingle Products	0.27	0.91	28²
Timberline® HD (white)	Shingle Products	0.26	0.85	24²
Timberline® Natural Shadow™ (Artic White)	Shingle Products	0.26	0.85	24²
Timberline® Ultra HD (white)	Shingle Products	0.26	0.85	24²

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² Roofing materials having a lower SRI value than those listed in Table 1 may be used if the weighted rooftop SRI average is \geq than 75% (see pg. 7).

Energy & Atmosphere (EA)

EA Credit 1 (1-19 points)	Optimize Energy Performance
Intent	To achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.
GAF's Eligible¹ Option	Option 1: Use GAF Energyguard™ roof insulation to demonstrate a percentage increase in the building performance rating compared to the baseline per ASHRAE/IESNA Standard 90.1-2007. Other methods to improve energy performance include the use of a reflective roofing membrane system, vegetative roof system or solar roofing system ² . (See Table 2)



Points Awarded for Increase in Energy Performance over Base Standard
Table 2

Energy Efficiency Improvement ³		LEED® Points
New Buildings	Existing Building Renovations	
12%	8%	1
14%	10%	2
16%	12%	3
18%	14%	4
20%	16%	5
22%	18%	6
24%	20%	7
26%	22%	8
28%	24%	9
30%	26%	10
32%	28%	11
34%	30%	12
36%	32%	13
38%	34%	14
40%	36%	15
42%	38%	16
44%	40%	17
46%	42%	18
48%	44%	19
50%	46%	ID Bonus Point

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² Refer to www.usgbc.org/leed for complete credit requirements.

³ The Building Performance Rating Method includes ALL of the energy costs within and associated with the building project.

EA Credit 2 (1-7 points)	On-site Renewable Energy																		
Intent	To encourage and recognize increasing levels of on-site renewable energy self-supply to reduce environmental and economic impacts associated with fossil fuel energy use.																		
GAF's Eligible¹ Option  	<p>Use a GAF Solar Roofing System or Solar Ventilation Product to contribute towards credit requirements in Table 3.</p> <p>Calculate the energy produced by the on-site renewable system as a percentage of the yearly energy cost of the building.</p> <p>On-site Renewable Energy Thresholds Table 3</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 70%;">Percentage Renewable Energy²</th> <th style="width: 30%;">LEED[®] Points</th> </tr> </thead> <tbody> <tr><td>1%</td><td>1</td></tr> <tr><td>3%</td><td>2</td></tr> <tr><td>5%</td><td>3</td></tr> <tr><td>7%</td><td>4</td></tr> <tr><td>9%</td><td>5</td></tr> <tr><td>11%</td><td>6</td></tr> <tr><td>13%</td><td>7</td></tr> <tr><td>15%</td><td>ID³ Bonus Point</td></tr> </tbody> </table>	Percentage Renewable Energy ²	LEED [®] Points	1%	1	3%	2	5%	3	7%	4	9%	5	11%	6	13%	7	15%	ID³ Bonus Point
Percentage Renewable Energy ²	LEED [®] Points																		
1%	1																		
3%	2																		
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7%	4																		
9%	5																		
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³ ID stands for Innovation in Design, one of seven LEED[®] credit categories.

Materials & Resources (MR)

MR Credit 2 (1-2 points)	Construction Waste Management									
Intent	To divert construction and demolition debris from landfills and incineration facilities. Redirect recyclable resources back into the manufacturing process. Redirect reusable materials to appropriate sites.									
GAF's Eligible ¹ Option	<p>Recycle and/or salvage roofing materials where applicable. Examples of materials include: asphalt shingles, TPO and PVC membranes, polyiso insulation, extruded or expanded polystyrene insulation, gypsum board, mineral fiber board, ballast, metal flashings, metal roof panels, and clean wood.</p> <p>Identify construction haulers and recyclers to handle the designated materials. The donation of construction materials to a charitable organization is another method of diversion².</p> <p>Develop and implement a Construction Waste Management Plan (CWMP) to establish diversion goals. For CWMP tips go to "Demolition & Recycling" on the GAF Green Roof Central website www.gaf.com/green.</p> <table border="1" data-bbox="683 1056 1360 1241"> <thead> <tr> <th>Percent Recycled or Salvaged³</th> <th>LEED® Points</th> </tr> </thead> <tbody> <tr> <td>50%</td> <td>1</td> </tr> <tr> <td>75%</td> <td>2</td> </tr> <tr> <td>95%</td> <td>ID⁴ Bonus Points</td> </tr> </tbody> </table>		Percent Recycled or Salvaged ³	LEED® Points	50%	1	75%	2	95%	ID ⁴ Bonus Points
Percent Recycled or Salvaged ³	LEED® Points									
50%	1									
75%	2									
95%	ID ⁴ Bonus Points									



Image: Construction Hauler

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² Refer to www.usgbc.org/leed for complete credit requirements.

³ Calculations can be done by weight or volume, but must be consistent throughout.

⁴ ID stands for Innovation in Design, one of seven LEED® credit categories.

MR Credit 4 (1-2 points)	Recycled Content								
Intent	To increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.								
GAF's Eligible¹ Option	Select GAF products with recycled content that can contribute to this goal. (See Table 4)								
<p>Pre-consumer Content: Material diverted from the waste stream during the 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.</p> <p>Post-consumer Content: Waste material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which no longer can be used for its intended purpose.</p>	<p>Requirements²:</p> <p>Use materials with recycled content such that post-consumer content plus ½ pre-consumer content is at least 10% or 20%.</p> <table border="1" data-bbox="683 669 1362 846"> <thead> <tr> <th data-bbox="683 669 1065 716">Recycled Content³</th> <th data-bbox="1065 669 1362 716">LEED® Points</th> </tr> </thead> <tbody> <tr> <td data-bbox="683 716 1065 762">10%</td> <td data-bbox="1065 716 1362 762">1</td> </tr> <tr> <td data-bbox="683 762 1065 808">20%</td> <td data-bbox="1065 762 1362 808">2</td> </tr> <tr> <td data-bbox="683 808 1065 846">30%</td> <td data-bbox="1065 808 1362 846">ID⁴ Bonus Point</td> </tr> </tbody> </table>	Recycled Content ³	LEED® Points	10%	1	20%	2	30%	ID ⁴ Bonus Point
Recycled Content ³	LEED® Points								
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20%	2								
30%	ID ⁴ Bonus Point								

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² Refer to www.usgbc.org/leed for complete credit requirements.

³ Based on cost of the total value of the materials in the project.

⁴ ID stands for Innovation in Design, one of seven LEED® credit categories.

Eligible¹ GAF Products

MRc4: Recycled Content

Table 4

Commercial Roofing Products ²	Recycled Content ³ Pre-Consumer	Recycled Content ³ Post-Consumer
Everguard [®] TPO Membranes	1	0
Everguard [®] PVC Membranes	7	7
Ruberoid [®] Torch FR Membranes	7.5	0
Ruberoid [®] Torch Smooth Membranes	4.3	0
Ruberoid [®] Torch Granule Membranes	7.3	0
Ruberoid [®] MOP 170 FR Membranes	4.4	0
Ruberoid [®] MOP Plus Smooth Membranes	5	0
Ruberoid [®] MOP Granule Membranes	4.8	0
Ruberoid [®] Mop Smooth 1.5 Membranes	5	0
Ruberoid [®] SBS Heat-Weld Smooth Membranes	4.6	0
Ruberoid [®] SBS Heat-Weld Granule Membranes	4.7	0
Ruberoid [®] SBS Heat-Weld Plus Membranes	5.6	0
Ruberoid [®] SBS Heat-Weld Plus FR Membranes	5.5	0
Ruberoid [®] SBS Heat-Weld 170FR Membranes	4.4	0
GAFGLAS [®] Ply 4 Membranes	4.8	0
Liberty [™] SBS Cap Sheets	4.9	0
Ruberoid [®] SA FR Cap Sheets	4.5	0
EnergyGuard [™] Perlite Cant Strips	2	33
EnergyGuard [™] Perlite Edge Strips	2	28
EnergyGuard [™] HD Fiberboards	3	28
EnergyGuard [™] Perlite Insulation	2	28
Securock [®] Gypsum-Fiber Roof Board	95	0
Drill-Tec [™] Plates & Fasteners	0	25
GardenScapes [™] Drainage Mat	50	0

¹ Products are not reviewed or certified under LEED[®]. LEED[®] credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

² If a product you are evaluating is not shown in Table 4, it may not contain any recycled content. Consult GAF for additional information on any product.

³ Recycled content is based on weight. Sourcing varies by region and is determined when the product is ordered.

Eligible¹ GAF Products (Continued)
MRC4: Recycled Content

Table 4

Commercial Roofing Products ²	Recycled Content ³ Pre-Consumer				Recycled Content ³ Post-Consumer			
	Statesboro	RH	RA	RN	Statesboro	RH	RA	RN
EnergyGuard™ Insulation ⁴								
1"	9.9	10	18.5	13.7	32.6	27.8	24.5	26.4
1.5"	9.5	9.9	14.2	11.8	25	21	18.8	19.1
2"	9.3	9.6	11.6	10.9	20.3	16.9	15.4	15.8
2.5"	9.2	9.5	9.9	10.1	17	14.1	13.1	12.9
3"	9.1	9.5	8.6	9.7	14.7	12.1	11.4	11.3
3.1"	9	9.4	8.2	9.7	14.3	11.7	10.8	11
3.3	9	9.4	7.7	9.5	13.6	11.1	10.3	10.5
3.5"	9	9.4	7.7	9.3	12.9	10.6	10.3	9.6
4"	8.9	9.3	6.9	9.1	11.5	8.5	9.1	8.7
X	9.9	10	18.5	13.7	32.6	27.8	24.5	26.4
Y	9.3	9.6	11.6	10.9	20.3	16.9	15.4	15.8
Z	9.1	9.5	8.6	9.7	14.7	12.1	11.4	11.3
Q	9.5	9.9	14.2	11.8	25	21	18.8	19.1
AA	9.9	10	18.5	13.7	32.6	27.8	24.5	26.4
A	9.7	9.9	15.9	12.8	29.1	24	21.1	22.8
B	9.4	9.7	12.7	11.4	21.9	18.7	16.8	17.5
C	9.2	9.6	10.5	10.5	18.8	15.4	14	14.4
GAFGLAS® Stratavent® Eliminator™ Nailable	39.7				0			
GAFGLAS® Stratavent® Eliminator™ Perforated	39.7				0			
Residential Roofing Products ²	Recycled Content ³ Pre-Consumer				Recycled Content ³ Post-Consumer			
Shingle-Mate™ Underlayment	0				60			
Cobra® Attic Exhaust Vent (mesh)	20				80			
WeatherWatch® 1.5 Leak Barrier	41.2				0			
WeatherWatch® 2 Leak Barrier	38.4				0			
Green Machine™ Solar Powered Roof Vents	0				25			

¹ Products are not reviewed or certified under LEED®. LEED® credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

² If a product you are evaluating is not shown in Table 4, it may not contain any recycled content. Consult GAF for additional information on any product.

³ Recycled content is based on weight. Sourcing varies by region and is determined when the product is ordered.

⁴ EnergyGuard™ insulation is sourced from manufacturing facilities nationwide and recycled content is based on GAF national averages. Sourcing location will not be determined until time of shipment and is subject to change. Depending on material sourcing, check packaging to determine if EnergyGuard™ insulation is RH, RA, RN or Statesboro. Confirm with GAF Customer Services.

Eligible¹ GAF Products (Continued)
MRc4: Recycled Content

Table 4

Residential Roofing Products²	Recycled Content³ Pre-Consumer	Recycled Content³ Post-Consumer
Camelot [®] II Shingles	21.2	0
Camelot [®] Shingles	32	0
Country Mansion [®] II Shingles	11.4	0
Grand Canyon [™] Shingles	30	0
Grand Sequoia [®] Shingles	17.4	0
Grand Sequoia [®] / Grand Canyon [™] Starter Strips	11.1	0
Grand Sequoia [®] IR Shingles	17.4	0
Grand Slate [®] Ultra Shingles	27.9	0
Marquis [®] Weathermax [®] Shingles	18.1	0
Monaco [®] Shingles	10.1	0
ProStart [™] Starter Strip Shingles	43.4	0
Ridglass [®] Hip and Ridge Shingles	37.1	0
Royal Sovereign [®] Shingles	12.9	0
Seal-A-Ridge [®] ArmorShield [™] Cap Shingles	35.5	0
Seal-A-Ridge [®] Cap Shingles	30.7	0
Sentinel [®] Shingles	17.3	0
Slateline [®] Shingles	19.8	0
Timberline [®] HD [™] Shingles	9.3	0
Timberline [®] American Harvest [™] Shingles	6.9	0
Timberline [®] ArmorShield [™] II Shingles	20	0
Timberline [®] Cool Series Shingles	8.7	0
Timberline [®] Natural Shadow [™] Shingles	5.9	0
Timberline [®] Ultra HD [™] Shingles	33.5	0
TimberTex [®] Hip and Ridge Shingles	37.1	0
WeatherBlocker [™] Starter Strip Shingles	36	0
Woodland [®] Shingles	14.7	0
Z [®] Ridge Hip and Ridge Shingles	37.1	0

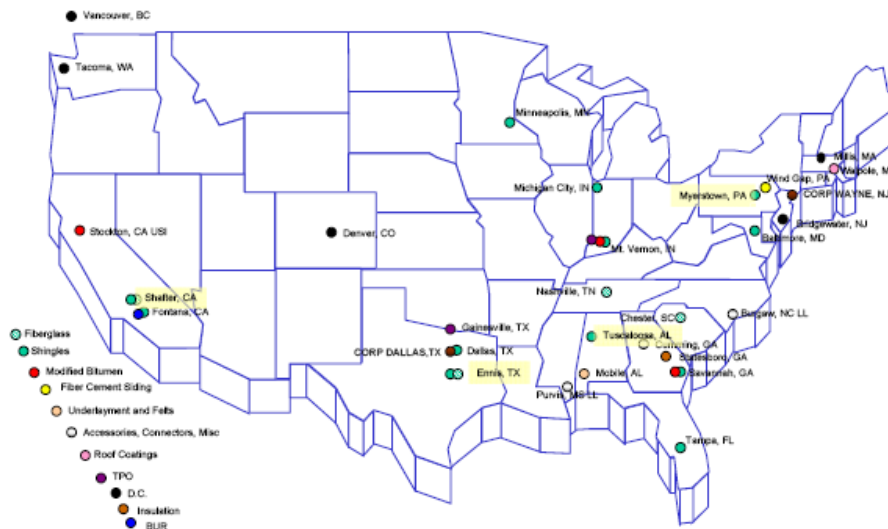
¹ Products are not reviewed or certified under LEED[®]. LEED[®] credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

² If a product you are evaluating is not shown in Table 4, it may not contain any recycled content. Consult GAF for additional information on any product.

³ Recycled content is based on weight. Sourcing varies by region and is determined when the product is ordered. The recycled material in GAF shingles is slag.

MR Credit 5 (1-2 points)	Regional Materials								
Intent	To increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.								
GAF's Eligible ¹ Option	Select GAF products that can contribute to this goal. (See Table 5)								
	<p>Requirements²:</p> <p>Option 1: Use building materials or products that have been <u>extracted, harvested or recovered, as well as manufactured</u>, within a 500 mile radius of the site for a minimum of 10% or 20%.</p> <p>Option 2: Allows for a weighted average compliance path for materials or products traveling by rail, inland water, or sea that is outside the 500 mile radius.</p> <table border="1" data-bbox="680 919 1360 1115"> <thead> <tr> <th>Regional Materials³</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>10%</td> <td>1</td> </tr> <tr> <td>20%</td> <td>2</td> </tr> <tr> <td>30%</td> <td>ID⁴ Bonus Point</td> </tr> </tbody> </table>	Regional Materials ³	Points	10%	1	20%	2	30%	ID ⁴ Bonus Point
Regional Materials ³	Points								
10%	1								
20%	2								
30%	ID ⁴ Bonus Point								

Plant Locations



¹ Products are not reviewed or certified under LEED®. LEED® credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

² Refer to www.usgbc.org/leed for complete credit requirements.

³ Based on cost of the total value of the materials in the project.

⁴ ID stands for Innovation in Design, one of seven LEED® credit categories.

Eligible¹ GAF Products MRc5: Regional Materials

Table 5

Residential & Commercial Roofing	Manufacturing Locations ²	Extraction Locations ³
Low Slope Products		
Everguard® TPO membrane	Gainesville, TX; Mt. Vernon, IN	Non-Contributing
Everguard® PVC membrane	Mountaintop, PA	Non-Contributing
BUR	Fontana, CA; Savannah, GA; Mt. Vernon, IN	Non-Contributing
Modified Bitumen	Stockton, CA; Fresno, CA; Savannah, GA; Mt. Vernon, IN	Non-Contributing
EnergyGuard™ Polyiso Insulation	Bremen, IN; Hazleton, PA; Jacksonville, FL; Cornwall, ON; Fernley, NV; Hazelton, PA; Greer, SC; Dallas, TX; Kingston, NY; Lake City, FL; Terrell, TX; Chicago, IL; Tooele, UT, Statesboro, GA	Non-Contributing
EnergyGuard™ Perlite insulation	Bremen, IN; Hazleton, PA; Jacksonville, FL; Cornwall, ON; Fernley, NV	Non-Contributing
Securock® Gypsum-Fiber Roof Board	Gypsum, OH	York Haven, PA (Gypsum 78%) Fremont, OH (Cellulosefibers-10%)
Densdeck® DuraGuard Roof Board	Acme, TX; Camden, NJ; Ft. Dodge, IA; Savannah/Brunswick, GA	Acme, TX; Port Hawkesbury, Nova Scotia, Ft. Dodge, IA (Gypsum)
Densdeck® Roof Board	Acme, TX; Antioch, CA; Caledonia, ON; Camden, NJ; Ft. Dodge, IA; Lovell, WY; Savannah, GA; Tacoma, WA; Wheatfield, IN; Las Vegas, NV; Newington, NH; Sweetwater, TX; Tacoma, WA	Acme, TX; Port Hawkesbury, Nova Scotia, Ft. Dodge, IA; Monroe, MI; Lovell, WY; Wheatfield, IN; San Marcos Island, Mexico; Centralia, WA; Sweetwater, TX; Tacoma, WA; St. George, UT (Gypsum)

¹ Products are not reviewed or certified under LEED®. LEED® credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

² Sourcing location will not be determined until time of shipment and are subject to change.

³ GAF products are sourced from compounds nationwide and may not comply with the portion of the credit pertaining to extraction, harvesting or recovering. Consult GAF for additional information on any product.

Eligible¹ GAF Products (Continued)

MRc5: Regional Materials

Table 5

Residential & Commercial Roofing	Manufacturing Locations ²	Extraction Locations ³ Locations ³
Low Slope Products		
Densdeck® Prime Roof Board	Acme, TX; Antioch, CA; Caledonia, ON; Camden, NJ; Ft. Dodge, IA; Lovell, WY; Savannah, GA; Tacoma, WA; Wheatfield, IN	Acme, TX; Port Hawkesbury, Nova Scotia, Ft. Dodge, IA; Monroe, MI; Lovell, WY; Wheatfield, IN; San Marcos Island, Mexico; Centralia, WA (Gypsum)
Underlayment & Felts	Camp Hill, PA	Non-Contributing
Fiberglass	Ennis, TX; Nashville, TN; Chester, SC; Shafter, CA	Non-Contributing
Roof Coatings (TOPCOAT®)	Walpole, MA	Non-Contributing
Drill-Tec™ Fasteners	Agawam, MA; Itasca, IL	Non-Contributing
Adhesives	Covington, KY; Rockford, IL; Plainfield, IL; Rockland, MA; Mountaintop, PA; Agawam, MA; Itasca, IL	Non-Contributing
Steep Slope Products		
GAF Quality Shingles	Myerstown, PA; Ennis, TX; Tuscaloosa, AL; Tampa, FL; Minneapolis, MN; Michigan City, IN; Baltimore, MD; Mt. Vernon, IN; Shafter, CA; Savannah, GA; Dallas, TX; Fontana, CA,	Non-Contributing
Shingle-Mate™ Underlayment	Franklin, OH; Dangerfield, TX; Hampton, GA	Non-Contributing
StormGuard® Leak Barrier	Mount Vernon, IN	Non-Contributing
WeatherWatch® Leak Barrier	Mount Vernon, IN; Fresno, CA; North Branch, NJ	Non-Contributing

¹ Products are not reviewed or certified under LEED®. LEED® credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

² Sourcing location will not be determined until time of shipment and are subject to change.

³ GAF products are sourced from compounds nationwide and may not comply with the portion of the credit pertaining to extraction, harvesting or recovering. Consult GAF for additional information on any product.

MR Credit 6 (1 point)	Rapidly Renewable Materials
Intent	To reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with rapidly renewable resources.
GAF's Eligible¹ Option	Select rapidly renewable products such as OlyBond500 Green to contribute towards credit achievement.
Rapidly Renewable Materials: Materials considered to be an agricultural product, both fiber and animal, that takes 10 years or less to grow or raise, and to harvest in a sustainable fashion.	Requirements²: Use rapidly renewable building materials and products for 2.5% of the total value of all building materials and products used in the project, based on cost.
ID³ Bonus Point	MRC6 is eligible for a bonus point if 5% use of rapidly renewable building materials and products by cost is achieved.

Rapidly Renewable Product	Rapidly Renewable Material	Percentage
OlyBond500 Green	Castor Oil Plant	12.5%



Image: OlyBond500 Green

¹ Products are not reviewed or certified under LEED®. LEED® credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

² Refer to www.usgbc.org/leed for complete credit requirements.

³ ID stands for Innovation in Design, one of seven LEED® credit categories.

Indoor Environmental Quality (IEQ)

IEQ Credit 4.1 (1 point)	Low-Emitting Materials- Adhesives and Sealants
Intent	To reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.
GAF's Eligible¹ Option	Select GAF products ² that can contribute to this goal. (See Tables 6 & 7)

EverGuard® TPO Adhesives & Chemicals

Table 6

Product Name	VOC Limit of Product ³ (g/L less water)	VOC Limit Allowed ³ (g/L less water)
Everguard® Low VOC TPO Bonding Adhesive	250	250
Everguard® Low VOC PVC Bonding Adhesive	199	250
Everguard® Pourable Sealer -Part A	2	450
Everguard® Pourable Sealer -Part A	2	450
OlyBond Classic	11	300
OlyBond500 & OlyBond500 Spotshot	5	300
OlyBond500 Green	11	300
Everguard® Caulk	341	450
Mthane	2	450
Everguard® Low VOC Primer	199	450
Everguard® WB 181 Bonding Adhesive	8	250
LRF-M Adhesive	0	300
LRF-O Adhesive	0	300
GAF 2-Part Roofing Adhesive	67.5	300



Image: Everguard® Low VOC Bonding Adhesive

¹ Products are not reviewed or certified under LEED®. LEED® credit requirements cover the performance of materials in aggregate, not the performance of individual products or brands.

² Select GAF products that contribute to this goal. Refer to www.usgbc.org/leed for complete credit requirements.

³ The GAF products listed comply with the VOC limits for SCAQMD Rule #1168, the LEED® referenced standard, which also meet the LEED® for Healthcare VOC requirements for Group 5: Exterior Applied Products.

TOPCOAT® Matrix™ Coatings, Adhesives & Primers

Table 7

Product Name	VOC Limit of Product ¹ (g/L less water)	VOC Limit Allowed ¹ (g/L less water)
TOPCOAT® Matrix™ 102 SBS Membrane Adhesive	289	300
TOPCOAT® Matrix™ 103 Cold Process Adhesive	289	300
TOPCOAT® Matrix™ 201 Premium SBS Flashing Cement	289	300
TOPCOAT® Matrix™ 202 SBS Flashing Cement	289	300
TOPCOAT® Matrix™ 203 Plastic Roof Cement	289	300
TOPCOAT® Matrix™ 204 Wet/Dry Roof Cement	289	300
TOPCOAT® Matrix™ 307 Primer	320	350
TOPCOAT® Matrix™ 322 (white)	40	300
TOPCOAT® Matrix™ Majorseal™ Liquid Flashing	25	300
TOPCOAT® Flexseal	298	300
TOPCOAT® Flashing Grade	49	300
TOPCOAT® Surface Seal SB (white)	429	550
TOPCOAT® MB Plus (white)	30	550
TOPCOAT® Fireshield® SB (white)	429	550
TOPCOAT® Fireshield® MB (white)	30	550
TOPCOAT® Surface Seal Primer	489	550
TOPCOAT® EnergyCote™ Elastomeric Coating (white)	28	250
FireOut™ Fire Barrier Coating	4	250
TOPCOAT® PVDF Coating	50	550
TOPCOAT® TPO Primer	1	350



Image: Topcoat® MB Plus (white)



Image: Matrix™ 102 SBS Membrane Adhesive

¹ The GAF products listed comply with the VOC limits for SCAQMD Rule #1168, the LEED® referenced standard, which also meet the LEED® for Healthcare VOC requirements for Group 5: Exterior Applied Products.

Regional Priority Credit (RPC)

RPC Credit (1 point)	Regional Priority Credits A LEED® Bonus Credit Category
Intent	Regional Priority Credits, or RPCs, are existing LEED® credits that have been designated as particularly important for specific regions. RPCs provide an incentive for the achievement of credits that address geographically specific environmental priorities.
Description	<p>A specific location, referenced by zip code, has six RPCs that have been identified by USGBC regional councils and chapters. <u>A project may earn up to four bonus points</u> as a result of earning these credits elsewhere in the rating system that are designated as RPCs for a project's zip code, with one bonus point earned per RPC.</p> <p>For example, if your team pursues and achieves one point for SSc7.2: Heat Island Effect-Roof and it is a Regional Priority Credit for your project's zip code, you automatically earn an extra bonus point.</p> <p>To identify the six RPCs for your project location, enter your zip code and LEED® rating system at the following link below. Projects registered on LEED® Online automatically see the associated RPCs.</p> <p>RegionalPriorityCredits</p>

LEED® Pilot Credit Library

Active List (subject to change)

The LEED Pilot Credit Library provides opportunities to pursue additional credit options that are outside the formal LEED rating system. The Pilot Credits are designed to test new and revised LEED credit language, alternative compliance paths, and new innovative green building technologies and concepts. Many Pilot Credits have been incorporated into the upcoming release of LEED v4.

View the current list of active Pilot Credits for added sustainable strategies and point opportunities for your project at: <http://usgbc.org/pilotcredits>

Pilot Credit Name	Credit Number	LEED® Points
Construction and Demolition Waste Management	MRpc69	1-2
Material Disclosure and Assessment (EPD)	MRC61	1
Material Ingredient Reporting	MRpc76	1
Material Ingredient Optimization	MRpc77	1
Responsible Sourcing of Raw Materials	MRpc53	1
Material Multi-attribute Assessment	MRpc52	1
Clean Construction	SSpc75	1
Renewable Energy – Distributed Generation	EApC56	1
Green Vehicles	LTpc70	1
Demand Response	EApC8	1
Sustainable Wastewater Management	WEpc10	1
Rainwater Management	SSpc16	1
Cooling Tower Water Use	WEpc17	1
Appliance and Process Water Use Reduction	WEpc18	1
Interior Lighting - Quality	EQpc22	1
Whole Building Life Cycle Assessment	MRpc63	1
Indoor Air Quality Procedure – Alternative Compliance Path	EQpc68	Required
Design for Active Occupants	EQc78	1
Medical and Process Equipment Efficiency	EApC3	1
Walkable Project Site	SSpc14	1
Low-emitting Interiors	EQpc21	1
Acoustics	EQpc24	1
Reconciled Project and Actual Energy Performance	EApC27	1
Ergonomics Strategy	EQpc44	1
Site Assessment	SSpc45	1
Bird Collision Deterrence	SSpc55	1
Light Pollution Reduction	SSpc7	1
Enhanced Acoustical Performance – Exterior Noise Control	EQpc57	1
Integrative Process	IDpc60	1
Monitoring Based Commissioning	EApC65	1
Community Contaminant Prevention – Airborne Releases	EApC66	1
Design For Active Occupants	EQpc78	1
Material Ingredients Product Manufacturer Supply Chain Optimization	MRpc79	1
Environmentally Preferable Interior Finishes and Furnishings	MRpc80	1
Green Training For Contractors, Trades, Operators and Service Workers	IPpc81	1

Need LEED® documentation for your GAF product?
Check out GAF's ecoScorecard website! <http://gaf.ecoscorecard.com/>



Architects, Designers, Specifiers: you've been heard. As you face thousands of product choices, understanding a particular product's contribution to a rating system is a daunting task. ecoScorecard solves this pervasive challenge, making environmental product calculations and documentation easier for you.

ecoScorecard is a **web-based tool** accessed on a manufacturer's website, that allows you to search that specific manufacturer's product catalog based on specific green characteristics. Beyond just the search function, ecoScorecard performs the required calculations and compiles the data into a printable PDF cut sheet. This PDF can then be used to help you meet the product documentation required by LEED® or any other certifying body.

ecoScorecard is a **no-cost service** provided to you as an added customer service benefit by the manufacturer. The tool will help eliminate your dependence on the sales reps and outside LEED® consultants for accurate product information and documentation. And because it's a web-based tool you have access to the answers you need **24 hours a day, 7 days a week**, within minutes.

Source: www.ecoscorecard.com

Now More Than Ever, It's Easy To Be "Green"...

...when making your roofing choices. As the industry leader, GAF is proud to offer a broad array of environmentally friendly solutions. We have options for both residential and commercial properties, including products containing recycled materials, reflective or "cool" roofing, re-cover roofing to reduce landfill waste, garden roofing, and solar roofing products. We have also worked to incorporate sustainable practices into our manufacturing process, including the recycling of shingle waste at plants, and a Zero-Waste-to-Landfill effort. GAF has also been a leader in the HPD pilot program for LEED® v4 and has been working to establish LCA's for our products. And be sure to ask about our Certified Green Roofer program that recognizes professional roofing contractors for recycling!



Want to learn more?

GAF Technical Services...can provide detail and answer questions on project specific conditions.

Contact Telephone...1-800-766-3411

For more information...about GAF's commitment to green manufacturing processes and our full line of energy saving products, visit "Green Roof Central" at www.gaf/green.com.

Helpful Links...

www.gaf.com

www.usgbc.org

<http://gaf.ecoscorecard.com>

www.coolroofs.org

www.energystar.gov

www.roofpoint.org

www.DSIREusa.org

<http://cool.gaf.com>

GAF

US Green Building Council (USGBC)

GAF ecoScorecard

Cool Roof Rating Council (CRRC)

Federal Tax Credits

RoofPoint

State Incentives for Renewables & Efficiency

Cool Roof Energy Savings Tool (CREST)

Glossary of Terms¹

Appurtenance: Any built-in nonstructural portion of a roof system, such as skylights, ventilators, mechanical equipment, partitions, and solar energy panels.

Emissivity

The ratio of the radiation emitted by a surface to the radiation emitted by a black body at the same temperature.

ENERGYSTAR® Rating

The rating a building earns using the ENERGYSTAR® Portfolio Manager to compare building energy performance to similar buildings in similar climates. A score of 50 represents average building performance.

Heat Island Effect

Occurs when warmer temperatures are experienced in urban landscapes compared to adjacent rural areas as a result of solar energy retention on constructed surfaces. Principal surfaces that contribute to the heat island effect include streets, sidewalks, parking lots and buildings.

Infrared or Thermal Emittance

A parameter between 0 and 1 (or 0% and 100%) that indicates the ability of a material to shed infrared radiation (heat). The wavelength range for radiant energy is roughly 3 to 40 micrometers. Most building materials (including glass) are opaque in this part of the spectrum, and have an emittance of roughly .09.

Low-Sloped Roof

≤2:12 pitch

Post-consumer Recycled Content

Waste material generated by household 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 materials from the distribution chain. Examples of this category include construction and demolition debris, materials collected through curbside and drop-off recycling programs, broken pallets (if from a pallet refurbishing company, not a pallet making company), discarded products (e.g., furniture, cabinetry and decking) and landscaping waste (e.g., leaves, grass clippings, tree trimmings, etc.).

Pre-consumer Recycled Content (Post-Industrial)

Defined as material diverted from the waste stream during the 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. Examples of this category include planer shavings, ply-trim, sawdust, chips, bagasse, sunflower seed hulls, walnut shells, culls, trimmed material, print overruns, over-issue publications, and obsolete inventories.

Primer

A material applied to a substrate to improve adhesion of subsequently applied coatings.

Recycling

The collection, reprocessing, marketing and use of materials that were diverted or recovered from the solid waste stream.

Regionally Extracted Materials

For LEED® for New Construction purposes must have their source as a raw material be within a 500-mile radius of the project site.

¹ Refer to the USGBC LEED® Reference Guide for Green Building Design and Construction 2009 Edition for complete LEED® terms and definitions.

Glossary of Terms¹

(Continued)

Regionally Manufactured Materials

For LEED® for New Construction purposes must be assembled as a finished product within a 500-mile radius of the project site. Assembly, as used for this LEED® definition, does not include on-site assembly, erection or installation of finished components, as in structural steel, miscellaneous iron or systems furniture. LEED® also has a weighted average option for materials traveling by rail, inland water, or sea for locations outside the 500-mile radius.

Reuse

A strategy to return materials to active use in the same or related capacity.

Roof Area

The area of the uppermost surface of the building which covers enclosed Gross Floor Area, as measured when projected onto a flat, horizontal surface (i.e. as seen in Roof Plan view). "Roofs" or portions of roofs, covering unenclosed areas (e.g. roofs over porches and opened covered parking structures) are not included in the areas used to evaluate compliance with SSc7.2, though they may be applicable to SSc7.1.

Sealant

A material with adhesive properties that is formulated primarily to fill, seal, or waterproof any gaps or joints between two surfaces. Sealants include sealant primers and caulks.

Solar Reflectance (albedo)

The ratio of the reflected solar energy to the incoming solar energy over wavelengths of approximately .3 to 2.5 micrometers. A reflectance of 100% means that all of the energy striking a reflecting surface is reflected back into the atmosphere and none of the energy is absorbed by the surface.

Solar Reflectance Index (SRI)

A measure of a material's ability to reject solar heat, shown as a small temperature rise. It is defined so that a standard black (reflectance .05, emittance .90) is 0 and a standard white (reflectance .80, emittance .90) is 100.

Steep-Sloped Roof

≥2:12 pitch

Storm Water Run-off

Water volumes that are created during precipitation events and that flow over surfaces into sewer systems or receiving water bodies. All precipitation waters that leave project site boundaries on the surface are considered to be storm water run-off volumes.

Title 24

California's energy efficiency standards for residential and nonresidential buildings.

VOC's (Volatile Organic Compounds)

Carbon compounds that participate in atmospheric photochemical reactions (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides and carbonates, and ammonium carbonate). The compounds vaporize (become a gas) at normal room temperatures.

¹ Refer to the USGBC LEED® Reference Guide for Green Building Design and Construction 2009 Edition for complete LEED® terms and definitions.

LEED® v2009 Project Checklist

LEED 2009 for New Construction and Major Renovation			Project Name _____	
Project Checklist			Date _____	
Sustainable Sites Possible Points: 26			Materials and Resources, Continued	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Prereq 1	Construction Activity Pollution Prevention	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1	Site Selection	<input type="checkbox"/>	Credit 4 Recycled Content 1 to 2
<input type="checkbox"/>	Credit 2	Development Density and Community Connectivity	<input type="checkbox"/>	Credit 5 Regional Materials 1 to 2
<input type="checkbox"/>	Credit 3	Brownfield Redevelopment	<input type="checkbox"/>	Credit 6 Rapidly Renewable Materials 1
<input type="checkbox"/>	Credit 4.1	Alternative Transportation—Public Transportation Access	<input type="checkbox"/>	Credit 7 Certified Wood 1
<input type="checkbox"/>	Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Room	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicle	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 4.4	Alternative Transportation—Parking Capacity	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 5.1	Site Development—Protect or Restore Habitat	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 5.2	Site Development—Maximize Open Space	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 6.1	Stormwater Design—Quantity Control	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 6.2	Stormwater Design—Quality Control	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 7.1	Heat Island Effect—Non-roof	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 7.2	Heat Island Effect—Roof	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 8	Light Pollution Reduction	<input type="checkbox"/>	
<input type="checkbox"/>			<input type="checkbox"/>	
Water Efficiency Possible Points: 10			Indoor Environmental Quality Possible Points: 15	
<input checked="" type="checkbox"/>	Prereq 1	Water Use Reduction—20% Reduction	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1	Water Efficient Landscaping	<input type="checkbox"/>	Prereq 1 Minimum Indoor Air Quality Performance
<input type="checkbox"/>	Credit 2	Innovative Wastewater Technologies	<input type="checkbox"/>	Prereq 2 Environmental Tobacco Smoke (ETS) Control
<input type="checkbox"/>	Credit 3	Water Use Reduction	<input type="checkbox"/>	Credit 1 Outdoor Air Delivery Monitoring 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 2 Increased Ventilation 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 3.1 Construction IAQ Management Plan—During Construction 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 3.2 Construction IAQ Management Plan—Before Occupancy 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 4.1 Low-Emitting Materials—Adhesives and Sealants 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 4.2 Low-Emitting Materials—Paints and Coatings 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 4.3 Low-Emitting Materials—Flooring Systems 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 4.4 Low-Emitting Materials—Composite Wood and Agrifiber Product 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 5 Indoor Chemical and Pollutant Source Control 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 6.1 Controllability of Systems—Lighting 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 6.2 Controllability of Systems—Thermal Comfort 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 7.1 Thermal Comfort—Design 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 7.2 Thermal Comfort—Verification 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 8.1 Daylight and Views—Daylight 1
<input type="checkbox"/>			<input type="checkbox"/>	Credit 8.2 Daylight and Views—Views 1
<input type="checkbox"/>			<input type="checkbox"/>	
Energy and Atmosphere Possible Points: 35			Innovation and Design Process Possible Points: 6	
<input checked="" type="checkbox"/>	Prereq 1	Fundamental Commissioning of Building Energy Systems	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Prereq 2	Minimum Energy Performance	<input type="checkbox"/>	Credit 1.1 Innovation in Design: Specific Title 1
<input checked="" type="checkbox"/>	Prereq 3	Fundamental Refrigerant Management	<input type="checkbox"/>	Credit 1.2 Innovation in Design: Specific Title 1
<input type="checkbox"/>	Credit 1	Optimize Energy Performance	<input type="checkbox"/>	Credit 1.3 Innovation in Design: Specific Title 1
<input type="checkbox"/>	Credit 2	On-Site Renewable Energy	<input type="checkbox"/>	Credit 1.4 Innovation in Design: Specific Title 1
<input type="checkbox"/>	Credit 3	Enhanced Commissioning	<input type="checkbox"/>	Credit 1.5 Innovation in Design: Specific Title 1
<input type="checkbox"/>	Credit 4	Enhanced Refrigerant Management	<input type="checkbox"/>	Credit 2 LEED Accredited Professional 1
<input type="checkbox"/>	Credit 5	Measurement and Verification	<input type="checkbox"/>	
<input type="checkbox"/>	Credit 6	Green Power	<input type="checkbox"/>	
<input type="checkbox"/>			<input type="checkbox"/>	
Materials and Resources Possible Points: 14			Regional Priority Credits Possible Points: 4	
<input checked="" type="checkbox"/>	Prereq 1	Storage and Collection of Recyclables	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	<input type="checkbox"/>	Credit 1.1 Regional Priority: Specific Credit 1
<input type="checkbox"/>	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Element	<input type="checkbox"/>	Credit 1.2 Regional Priority: Specific Credit 1
<input type="checkbox"/>	Credit 2	Construction Waste Management	<input type="checkbox"/>	Credit 1.3 Regional Priority: Specific Credit 1
<input type="checkbox"/>	Credit 3	Materials Reuse	<input type="checkbox"/>	Credit 1.4 Regional Priority: Specific Credit 1
<input type="checkbox"/>			<input type="checkbox"/>	
Total Possible Points: 110			Total Possible Points: 110	
			Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110	