



# GREENER building materials

As an industry leader with a proud heritage spanning more than 100 years, USG understands the need to safeguard the world around us and protect the vital natural resources we all share. Long before conservation became a mainstream concern, USG was finding innovative ways to reduce waste, operate efficiently and transform manufacturing byproducts into valuable new resources.

With a firm belief that health, safety and environmental well-being are compatible with economic prosperity, USG maintains a longstanding commitment with our employees, customers and communities to reduce environmental impact, use recycled materials whenever feasible and eliminate manufacturing waste. We have a solid history of environmental leadership and responsibility, and we are constantly seeking environmentally friendly product and manufacturing solutions.

Consumers have become increasingly aware of the need to conserve energy, manage the use of raw materials, reduce waste and safeguard against pollutants. In response, many developers and owners now demand buildings with materials and technologies that will help save energy, preserve the integrity of the surrounding land and assure a clean, healthy indoor environment.

USG emphasizes innovation in our products, from the ingredients we choose to the processes we employ. Take a closer look at the advantages that let you choose USG products with confidence.



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Credit	Description	LEED-NC Requirement	Solution
Sustainable Sites Prereq. 1 Required	Construction Activity Pollution Prevention	Create and implement an erosion and sedimentation control plan for all construction activities associated with the project. The plan must conform to the erosion and sedimentation requirements of the 2003 EPA Construction General Permit OR local standards and codes, whichever is more stringent.	United States Gypsum Company erosion and dust control products (ENVIRO-SHIELD® and ENVIRO-SHIELD® PLUS Bonded Fiber Matrix, ENVIRO-BLANKET™ Wood Fiber Hydraulic Mulches, AIRTROL® Geobinder, and DUST ARMOUR®) are engineered to provide effective and economical solutions to help our customers achieve their environmental goals. See <a href="http://www.usg-erosioncontrol.com/environmental/index.asp">http://www.usg-erosioncontrol.com/environmental/index.asp</a> .
Sustainable Sites Credit 3 1 point	Brownfield Redevelopment	Develop on a site documented as contaminated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment or a local voluntary cleanup program) OR develop on a site defined as a brownfield by a local, state, or federal government agency.	Gypsum can be used to remediate soils polluted with lead, cadmium, aluminum, copper and chromium+6. Gypsum can also be used as fill material at brownfield and Superfund sites and, combined with composts, has been used to reclaim abandoned mine lands at affordable prices. See <a href="http://www.gypsumsolutions.com/">http://www.gypsumsolutions.com/</a> .
Sustainable Sites Credit 6.1 1 point	Stormwater Design – Quantity Control	Limit disruption of natural hydrology by reducing impervious cover, increasing on-site infiltration, reducing or eliminating pollution from stormwater runoff and eliminating contaminants.	United States Gypsum Company erosion and dust control products (ENVIRO-SHIELD® and ENVIRO-SHIELD® PLUS Bonded Fiber Matrix, ENVIRO-BLANKET™ Wood Fiber Hydraulic Mulches, AIRTROL® Geobinder, and DUST ARMOUR®) are engineered to provide effective and economical solutions to help our customers achieve their environmental goals. Gypsum could be used as a pond treatment in aquaculture for: (1) flocculating clay particles, (2) increasing concentrations of calcium and total hardness, (3) precipitating phosphate, and (4) reducing pH. See <a href="http://www.usg-erosioncontrol.com/environmental/index.asp">http://www.usg-erosioncontrol.com/environmental/index.asp</a> .

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Sustainable Sites Credit 6.2 1 point	Stormwater Design – Quality Control	Limit disruption and pollution of natural water flows by managing stormwater runoff.	United States Gypsum Company erosion and dust control products (ENVIRO-SHIELD® and ENVIRO-SHIELD® PLUS Bonded Fiber Matrix, ENVIRO-BLANKET™ Wood Fiber Hydraulic Mulches, AIRTROL® Geobinder, and DUST ARMOUR®) are engineered to provide effective and economical solutions to help our customers achieve their environmental goals. Gypsum could be used as a pond treatment in aquaculture for: (1) flocculating clay particles, (2) increasing concentrations of calcium and total hardness, (3) precipitating phosphate, and (4) reducing pH. See <a href="http://www.usg-erosioncontrol.com/environmental/index.asp">http://www.usg-erosioncontrol.com/environmental/index.asp</a> .
Water Efficiency Credit 1 2-4 points	Water Efficient Landscaping	Reduce potable water consumption for irrigation by 50% from a calculated mid-summer baseline case. Earn an additional point by using only captured rainwater, recycled wastewater, recycled greywater, or water treated and conveyed by a public agency specifically for non-potable uses for irrigation.	Gypsum Improves Soil Structure - Gypsum has calcium which is needed to flocculate clays in acid and alkaline soil. Gypsum Helps Reclaim Sodic Soils - Gypsum is used in the reclamation of soils by replacing the sodium held on the clay-binding sites. Gypsum Holds Water/Reduces Watering Needs - The use of 1 ton of gypsum per acre per year will reduce watering needs from 20% to 100% depending on crops or plants. See <a href="http://gypsumsolutions.com/application.asp?app=Agricultural">http://gypsumsolutions.com/application.asp?app=Agricultural</a> .
Energy & Atmosphere Prereq. 2 Required	Minimum Energy Performance	Demonstrate a percentage improvement in the proposed building performance rating compared to the baseline building performance rating per ASHRAE/IESNA Standard 90.1.2007 OR comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 OR comply with the prescriptive measures identified in the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute.	Using high Light Reflectance (LR) interior materials such as any of USG's acoustical ceiling panels (LR of .70 to .89) can reduce required luminaries of design space and improve the quality and quantity of both natural and artificial light.

Credit	Description	LEED-NC Requirement	Solution
Energy & Atmosphere Credit 1 1-19 points	Optimize Energy Performance	Demonstrate a 10% improvement for new buildings or a 5% improvement for existing building renovations in the proposed building performance rating compared to the baseline building performance rating per ASHRAE/IESNA Standard 90.1.2007 OR comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 OR comply with the prescriptive measures identified in the the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute.	Using high Light Reflectance (LR) interior materials such as any of USG's acoustical ceiling panels (LR of .70 to .89) can reduce required luminaries of design space and improve the quality and quantity of both natural and artificial light.
Materials & Resources Credit 1.1 1-3 points	Building Reuse-Maintain Existing Walls, Floor and Roof	Maintain the existing building structure (including structural floor and roof decking) and envelope (the exterior skin and framing, excluding window assemblies and non-structural roofing material). Get one point for maintaining 55%, two points for maintaining 75% and three points for maintaining 95%.	USG products are durable and easy to maintain with a long service life allowing them to remain in use during the life of the building without removal and replacement.
Materials & Resources Credit 1.2 1 point	Building Reuse-Maintain Existing Interior Non-structural Elements	Use existing interior non-structural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50% (by area) of the completed building, including additions.	USG products are durable and easy to maintain with a long use life allowing them to remain in use during the life of the building without removal and replacement.
Materials & Resources Credit 2 1-2 points	Construction Waste Management	Recycle and/or salvage at least 50% (by volume or weight) of any construction, demolition, and land clearing waste. An additional point is awarded if an additional 25% is recycled or salvaged.	The grinding or composting of SHEETROCK® Brand gypsum panel construction waste helps calcium fortification of soils, neutralize pH, neutralize winter salting, reduce hardness of most soils, and assists soil in holding nutrients. In addition the use of one ton of gypsum per acre per year will increase yield and reduce watering needs by 20% to 100%. See <a href="http://gypsumsolutions.com/application.asp?app=Agricultural">http://gypsumsolutions.com/application.asp?app=Agricultural</a> . USG ceiling tiles and grid can often be removed and salvaged for sale at secondary material shops. USG does have a ceiling tile reclamation program for return and remanufacturing into new tiles.

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Materials & Resources Credit 3 1-2 points	Materials Reuse	Use salvaged, refurbished, or reused materials, products, and furnishings for at least 5% of building products. An additional point is awarded if the totals are at least 10%.	The grinding or composting of SHEETROCK® Brand gypsum panel construction waste helps calcium fortification of soils, neutralize pH, neutralize winter salting, reduce hardness of most soils, and assists soil in holding nutrients. See <a href="http://gypsumsolutions.com/application.asp?app=Agricultural">http://gypsumsolutions.com/application.asp?app=Agricultural</a> .
Materials & Resources Credit 4 1-2 points	Recycled Content	Use materials with recycled content such that the sum of post-consumer content plus 1/2 of the post-industrial content constitutes at least 10% of the total value of the materials in project (1 point). An additional point is awarded if a total of 20% of the total value of the materials in the project is reached.	USG products are high in recycled content, while maintaining a high durability index or life expectancy. For more information on the recycled content of specific USG products refer to the USG Sustainability Table at <a href="http://usg.com/USG_Marketing_Content/usg.com/web_files/Documents/A56_Sustainability_tables.pdf">http://usg.com/USG_Marketing_Content/usg.com/web_files/Documents/A56_Sustainability_tables.pdf</a>
Materials & Resources Credit 5 1-2 points	Regional Materials	Use a minimum of 10% of building materials and products that are manufactured within a radius of 500 miles. An additional point is awarded if this total is 20%.	USG has more drywall, joint compound, plaster, ceiling tile, ceiling grid manufacturing facilities than any other manufacturer in North America to meet your local needs. For more information on distances of raw materials to our manufacturing facilities of specific USG products refer to the USG Sustainability Tables at <a href="http://usg.com/USG_Marketing_Content/usg.com/web_files/Documents/A56_Sustainability_tables.pdf">http://usg.com/USG_Marketing_Content/usg.com/web_files/Documents/A56_Sustainability_tables.pdf</a> or use the LEED Report tool on USG Design Studio ( <a href="http://www.usgdesignstudio.com/LEEDreport.asp">http://www.usgdesignstudio.com/LEEDreport.asp</a> ).
Materials & Resources Credit 6 1 point	Rapidly Renewable Materials	Use rapidly renewable building materials and products (made from plants that are typically harvested within a ten-year cycle or shorter) for 2.5% of the total value of all building materials and products used in the project, based on cost.	Most USG products, including all SHEETROCK® and FIBEROCK® Brand Gypsum Panels and all acoustical ceiling panels, use starch made from wheat and/or corn as a binder. For more information on percentages of starch used in specific USG products refer to the USG Sustainability Table at <a href="http://usg.com/USG_Marketing_Content/usg.com/web_files/Documents/A56_Sustainability_tables.pdf">http://usg.com/USG_Marketing_Content/usg.com/web_files/Documents/A56_Sustainability_tables.pdf</a> .

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Indoor Environmental Quality Credit 3.2 1 point	Construction IAQ Management Plan – Before Occupancy	Develop an IAQ management plan and implement it after all finishes have been installed and the building has been completely cleaned before occupancy.	Most USG products are 'zero emitting' products. The use of interior products with such low levels of emissions would yield in the quality of the room's emissions below the requirements of this credit and therefore would not require the expense and time required to conduct the flush-out option rather conduct a simple Air Test which would document your wise material selection.
Indoor Environmental Quality Credit 4.1 1 points	Low-emitting Materials: Adhesives & Sealants	The VOC content of adhesives and sealants used must be less than the current VOC content limits of South iCoast Air Quality Management District (SCAQMD) Rule #1168.	USG SHEETROCK® Acoustical Sealant is an architectural sealant used in fire and sound systems. It has a TVOC ,65 g/L and the LEED IEQ 4.1 requirement for Architectural Sealants is to < 250g/L making SHEETROCK® Acoustical Sealant a "Low-emitting Material" as defined by this credit.
Indoor Environmental Quality Credit 4.2 1 points	Low-emitting Materials: Paint and Coatings	Architectural paints, coatings and primers applied to interior walls and ceilings do not exceed to VOC content limits established in Green Seal StandardGS-11. Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates do not exceed the VOC content limit of 250 g/L established in Green Seal Standard GC-03. Clear wood finishes, floor coatings, stains, and shellacs applied to interior limits established in South Coast Air Quality Management District Rule 1113.	USG SHEETROCK® TUFF-HIDE™ primer-surfacer and Cover Coat® compound leveler both have TVOC levels < 50 g/L as required to be defined as 'Low-emitting Materials' by LEED IEQ 4.2 for flat paints/primers.
Indoor Environmental Quality Credit 8.1 1 points	Daylight & Views- Daylight	Demonstrate through computer simulations that 75% or more of all regularly occupied spaces achieve daylight illuminance levels of a minimum of 25 footcandles and a maximum of 500 footcandles in a clear \sky condition on September 21 at 9 a.m. and 3 p.m. OR use a combination of side-lighting and/or top-lighting to achieve a total daylighting zone that is at least 75% of all the regularly occupied spaces OR demonstrate through records of indoor light measurements that a minimum daylight illumination level of 25 footcandles has been achieved in at least 75% of all regularly occupied spaces OR any of the above calculation methods may be combined to document the minimum daylight illumination in at least 75% of all regularly occupied spaces.	Many USG materials can be used to provide interior light shelves allowing reflection of natural light deeper into interior spaces and our ceiling products are designed with high light reflective properties, which increases the uniformity and intensity of both natural and artificial light.

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Innovation in Design Credit 1 1-5 points	Innovation in Design	Earn points for exceptional performance above the requirements set by the LEED Green Building Rating System and/or innovative performance in Green Building categories not specifically addressed. Each innovation can earn one point for a total of five points.	Although the LEED rating systems currently do not address emissions of all of building materials and their effects on indoor air quality, all USG products are zero to low emitters of VOCs and meet the most stringent requirements for emission. USG offers the cleanest and lowest emitting products available and may contribute to innovation credits. For more information on the VOC and formaldehyde emissions information for specific USG products refer to the USG Sustainability Table at <a href="http://usg.com/USG_Marketing_Content/usg.com/web_files/Documents/A56_Sustainability_tables.pdf">http://usg.com/USG_Marketing_Content/usg.com/web_files/Documents/A56_Sustainability_tables.pdf</a> .
Innovation in Design Credit 2 1 point	LEED Accredited Professional	At least one principal participant of the project team has successfully completed the LEED Accredited Professional exam.	USG employs LEED Accredited Professionals who can help navigate the LEED certification system. In addition, USG has created a tool to assist in the documentation needed for LEED reporting of USG products; visit <a href="http://www.usgdesignstudio.com/leedreport.asp">http://www.usgdesignstudio.com/leedreport.asp</a>
Regional Priority Credit 1 1-4 points	Regional Priority	Achieve one of the six credits that has been identified as regionally important by the regional authority where the LEED project is located. Each credit can earn one point for a maximum of four points.	Credits achieved through USG solutions may contribute to these credits.

**Note:** Use of the particular products/solutions listed in this grid contribute toward the efforts to achieve LEED points in these specific categories, however, use of these products/solutions alone does not guarantee achievement of point criteria or LEED certification of a building.