



BULLETIN

SIPLAST ROOF INSULATION SYSTEMS

Siplast Lightweight Insulating Concrete Roof Insulation Systems

Acoustical Values - LEED Design Contribution

Bulletin 10 – SRIS-1101

The United States Green Building Council (USGBC) created the LEED System to promote the design and construction of buildings that are beneficial to both the environment and building occupants. Recent additions to the LEED for Schools – New Construction and Major Renovation show additional advantage in using Siplast Lightweight Insulating Concrete Roof Insulation Systems. Effective classroom acoustical design can help enhance the communications between teacher and student with STC ratings of 35 or greater. The design use of Siplast Lightweight Insulating Concrete Roof Insulation Systems can generate assemblies with STC values up to 55. The following chart summarizes the acoustical guidelines as they apply to the LEED rating system.

	APPLICABLE PRODUCTS	LEED CREDIT	AVAILABLE POINTS	INTENT	REQUIREMENTS/COMMENTS
Materials & Resources	Siplast Lightweight Insulating Concrete combined with Paradiene Re-Cover Program projects using Paradiene 40 CR FR.	LEED 2009 NC Version 3 Materials & Resources MR Credits 1.1 & 1.2 Building Reuse	MR Credit 1.1 1 point (75%) MR Credit 1.2 1 point (95%)	Extend life-cycle of existing building stock. Reduce waste & environmental impacts as they relate to materials manufacturing & transport.	Maintain at least 75% (based on surface area) of existing building structure (including structural floor and roof decking) and envelope (...non-structural roofing materials). Maintain an additional 20% (95% based on surface area) as referenced above.
	Siplast Lightweight Insulating Concrete	LEED 2009 NC Version 3 Indoor Environmental Quality IEQ Credit 7.1 Thermal Comfort	1 point	Comfortable thermal environment that supports productivity and well-being of occupants.	Design HVAC and building envelope systems to meet ASHRAE Standard 55-2004 Thermal Comfort Conditions for Human Occupancy.
Indoor Environmental Quality		LEED 2009 EBOM Version 3 Indoor Environmental Quality IEQ Credit 7.1 Thermal Comfort	1 point		
		Siplast Lightweight Insulating Concrete	LEED 2009 for Schools NC and Major Renovations	1 point	To provide classrooms that facilitate better teacher-to-student and student-to-student communications through effective acoustical design.

Contact Siplast for more information on the applicability of Lightweight Insulating Concrete Systems toward LEED Green Building Rating and specific assemblies' acoustical values.



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Table 1
Acoustical Values

System Construction

Structural Substrate	ZIC System	Roofing	STC
26 ga. Corrugated Steel	2" 1:6 ZIC above flutes	BUR/Gravel	41
26 ga. Corrugated Steel	1" Insulperm 2" 1:6 ZIC above Insulperm	BUR/Gravel	36
22 ga. Corrugated Steel	2" 1:4 ZIC on flutes 7" Insulperm EPS 2" 1:4 ZIC above Insulperm	Paradiene 20/30	43
22 ga. Corrugated Steel	2" 1:4 ZIC on flutes 7" Insulperm EPS 4" 1:4 ZIC above Insulperm	Paradiene 20/30	44
22 ga. Corrugated Steel	2" 1:4 ZIC on flutes 12" Insulperm EPS 4" 1:4 ZIC above Insulperm	Paradiene 20/30	46
4" Structural Concrete	3" Insulperm 1 ½" NVS Concrete above Insulperm	Modified bitumen/Gravel	55

Note: STC values are for the roof deck construction only. When a ceiling system is installed beneath the roof deck, 7 to 12 additional STC points can be added to the deck only values. Consult your ceiling supplier for specific values.