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Global.



## SMaRT Scorecard

SMaRT stands for the **Sustainable Material Rating Technology** system developed by MTS to evaluate materials based on the criteria used to evaluate a project's impact on the environment, human health and economic conditions in a community.

To achieve SMaRT Sustainable Product Certification at any level, products must achieve a prerequisite of 14 points and a minimum of 28 out of 162 optional points in the following six areas. These cover all product stages from cradle to grave across the global supply chain:

- **Safe for Public Health & Environment** - This examines where the raw materials are acquired and what chemicals are part of the product or by products of the manufacturing process. Chemicals on the Stockholm Persistent Organic Pollutants list are strictly prohibited
- **Renewable Energy & Energy Reduction** - Energy consumed in all stages of the process from acquisition of the raw materials through installation, use and maintenance of the product. VCP has a low embodied energy level and uses clean fuels during manufacturing.
- **Biobased or Recycled Materials** - The composition of the product is reviewed for renewable biobased materials or post-consumer recycled material content. The minerals used to make Vitrified Clay Pipe are not biobased and there is no post-consumer clay pipe waste.
- **Facility or Company Requirements** - This section reviews the manufacturer's environmental policies and targets as well as working conditions and community involvement.
- **Reclamation, Sustainable Reuse & End of Life Management** - Evaluates the longevity and durability of the products and the economic impacts related to the impact of life cycle of the product produced. Vitrified has the longest demonstrated product life of any material used in the construction of gravity flow sanitary sewers.
- **Innovation in Manufacturing** - New processes or recent product improvements geared towards improving environmental, economic or social performance are evaluated for credit.

**Under these areas, products are required to:**

- Use ISO 14020 compliant Life Cycle Assessment process to evaluate environmental and energy impacts over the full life cycle of the product.
- Have Operational Reclamation and/or Sustainable Reuse Programs. Vitrified Clay Pipe is also sold as landscaping materials.
- Have Product Performance Durability (long lasting products). Nothing compares to VCP for longevity and providing the best return on every dollar invested.

**Certified Sustainable to the Triple Bottom Line:**  
Good for the Environment, the Economy and the Global Community

## Vitrified Clay Pipe

## SMART BUILDING PRODUCT STANDARD® SCORECARD

*Sustainable Materials Rating Technology®*

**Product Name:** Vitrified Clay Pipe (VCP), Clay Roof Tile, Clay Flue Liners, & Architectural Terracotta

**Applicant:** NCPI - National Clay Pipe Institute

**Scorecard Date:** **FINAL 9/13/2011**

Yes	No			
		<b>PHE</b>	<b>Safe for Public Health &amp; Environment</b>	
11				
1		PHE 1-1	Feedstock Inventory Documentation	Required
1		PHE 1-2	Input Stockholm Chemicals	Required
1		PHE 1-3	Output Stockholm Chemicals	Required
2		PHE 2-1	Inventory human and ecological health chemical emissions	
2		PHE 2-2	Inventory Air, Water, & Waste (media) Pollutants	
1		PHE 3-2	Minimize Indoor Air VOCs	
1		PHE 3-3	Minimize Indoor Air Carcinogenic VOCs	
1		PHE 4-2	Minimize Indoor Formaldehyde Emissions	
1		PHE 4-3	No Polybrominated diphenyl ethers	
1		<b>PHE</b>	<b>Renewable Energy &amp; Energy Reduction (RE&amp;ER)</b>	
		<i>Manufacturing Facility Only</i>		
1		RE&ER 1-1	Energy Inventory	Required
2		<b>MATLS</b>	<b>Bio based or Recycled</b>	
2		MATLS 1-1	Inventory Bio based and Recycled Content Materials	Required
16		<b>MFG</b>	<b>Facility or Company Based</b>	
1		MFG 1-1	EMS Environmental Policy & Targets	Required
1		MFG 1-2	Social Indicator Reporting for Manufacturers	Required
4		MFG 2-1	LCA Process	Required
1		MFG 3-1	Transparent Secondary Materials Reclamation System	
1		MFG 3-2	Transparent Materials Reclamation System	
2		MFG 3-3	Transparent Repurpose Materials Reclamation System	
2		MFG 4-1	Identify Adopted Design for Environment Process	
2		MFG 5-1	Environmental Management System Certification	
2		MFG 6-1	Sustainable/EPP Product Transaction Disclosures	

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23		EOL	Reclamation, Sustainable Reuse, & End of Life Management	
1		EOL 1-1	Operational Reclamation and/or Sustainable Reuse Programs Required	Required
1		EOL 1-2	Performance Durability Required	Required
2		EOL 2-1	Extended Product Life of System	
3		EOL 2-2 -- 2-4	1-6% Product Reclamation and/or Reuse [1 pt every 2%]	
3		EOL 3-1 -- 3-3	7-12% Product Reclamation and/or Reuse [1 pt every 2%]	
4		EOL 4-1 -- 4-4	13- 20% Product Reclamation and/or Reuse [1 pt every 2%]	
5		EOL 5-1 -- 5-5	21- 30% Product Reclamation and/or Reuse [1 pt every 2%]	
4		EOL 6-1 -- 6-3	30% or More Product Reclamation and/or Reuse [1 pt for 2% until 38%]	
Yes		EOL 6-4 -- 6-11	Innovation: Product Reclamation and/or Reuse	

15		IM	Innovation in Manufacturing	
14		IM - 1-1	EOL 6-5 -- 6-11 2 pts for every 10% more Reclamation [39-100%]	
1			Green Cleaning - NO VOC, water only (remain in PHE)	

<b>68</b>		<b>Final Product Score</b>			
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MTS Certified Achievement - Sustainable 28-40 pts Silver 41-60 pts Gold 61-89 pts Platinum 90-162 pts

**Adjustment** minus -2 points for each threshold due to omission of Cleaner & Greener Certification credits (GOLD min = 59)

***SMaRT Gold***