

The Ratio Bench is constructed of durable materials. The bench is ergonomic, low maintenance, recyclable and easy to disassemble. The frame is comprised of 100% recyclable, corrosion resistant aluminum. The seats are formed from 100% recyclable stainless steel with high recycled content. Powdercoat finishes are no- or low-VOC.

Recycled Content & Certifications

Configurations	Post-Industrial Recycled Content	Post-Consumer Recycled Content	Total Recycled Content	3 rd Party Certifications
Ratio Bench, backed seat with Sandstone stainless steel finish	19%	46%	65%	-
Ratio Bench, backed seat with Satin stainless steel finish	58%	0%	58%	-
Ratio Bench, backed seat with powdercoat finish	58%	0%	58%	-
Ratio Bench, backless seat with Sandstone stainless steel finish	20%	44%	64%	-
Ratio Bench, backless seat with Satin stainless steel finish	58%	0%	58%	-
Ratio Bench, backless seat with powdercoat finish	58%	0%	58%	-

Green Building Standards

<p>LEED® v3</p> <p><i>MR2: Construction Waste Management</i> – packaging is designed to be reusable or recyclable. See below for details.</p> <p><i>MR4: Recycled Content</i> – this product contains recycled material. Recycled content is shown above for all standard options.</p> <p><i>MR5: Regional Materials</i> – this product is manufactured in Pittsburgh, PA. Contact for details.</p> <p><i>IEQp2: Environmental Tobacco</i> - this product may be used to help designate a smoking area away from doors, windows, and ventilation inlets.</p>
<p>LEED v4</p> <p><i>MRp2/MR5: Construction Waste Management</i> – packaging is designed to be reusable or recyclable. See below for details.</p> <p><i>MR3: Sourcing of Raw Matls. (recycled content)</i> – this product contains recycled material. Recycled content is shown above for all standard options.</p> <p><i>(regional materials)</i> – this product is manufactured in Pittsburgh, PA. Contact for details.</p> <p><i>MR4: Material Ingredients</i> – this product has a Health Product Declaration. Contact for details.</p> <p><i>EQp2: Environmental tobacco smoke control</i> - this product may be used to help designate a smoking area away from doors, windows, & ventilation inlets.</p> <p><i>EQ2: Low-emitting Materials</i> – inherently non-emitting sources. Contact for details.</p>
<p>Green Globes™</p> <p><i>3.5.4.1 Construction Waste</i> – packaging is designed to be reusable or recyclable. See below for details.</p> <p><i>3.5.6.3 Deconstruction and Disassembly</i> – this product can be disassembled to separate recyclable components.</p> <p><i>3.7.2.1 Volatile Organic Compounds</i> - inherently non-emitting sources. Contact for details.</p> <p><i>3.7.2.9 Other Indoor Pollutants (Tobacco...)</i> - this product may be used to help designate a smoking area away from doors, windows, & ventilation inlets.</p>
<p>Estidama Pearl Rating System: Design & Construction, Version 1.0</p> <p><i>LBi-R2: Smoking Control</i> - this product may be used to help designate a smoking area away from doors, windows, and ventilation inlets.</p> <p><i>LBi-2.5: Material Emissions: Formaldehyde Reduction</i> – inherently non-emitting sources. Contact for details.</p> <p><i>SM-R1: Hazardous Material Elimination</i> – product contains no ACMs and no CCA-treated timber.</p> <p><i>SM-R2/SM-13: Construction Waste Management</i> - packaging is designed to be reusable or recyclable. See below for details.</p>
<p>SITES v2 Rating System</p> <p><i>Materials C5.3: Design for adaptability and disassembly</i> - this product can be disassembled to separate recyclable components.</p> <p><i>Materials C5.5: Use recycled content materials</i> - this product contains recycled material. Recycled content is shown above for all standard options.</p> <p><i>Materials C5.6: Use regional materials</i> - this product is manufactured in Pittsburgh, PA. Contact for extraction information.</p> <p><i>Materials C5.8: Support transparency and safer chemistry</i> - this product has a Health Product Declaration. Contact for details.</p> <p><i>HHWB C6.10: Minimize exposure to environmental tobacco smoke (ETS)</i> - this product may be used to help designate a smoking area away from doors, windows, and ventilation inlets.</p> <p><i>Construction C7.5: Divert construction and demolition materials from disposal</i> - packaging is designed to be reusable or recyclable. See below for details.</p>

Product Materials

Material	Description	Maintenance (0-5)*	Inherent Value (0-5)**	Biodegradable	Corrosion/Wear Resistant	Rapidly Renewable	Recyclable	Scratch Resistant
Aluminum	Corrosion-resistant metal that is suitable for many fabrication methods.	3	3		x		x	
Stainless Steel	Steel that is alloyed with chromium and other metals to improve corrosion-resistance.	3	4		x		x	
*Maintenance ratings are assigned as follows: 0 – High level of maintenance required to keep up product performance and aesthetics; 5 – Absolutely no maintenance required to keep up product’s visual appearance and performance characteristics;								
**Inherent value ratings are assigned based on the material’s scrap value: 0 – No scrap value, or negative scrap value, and/or no scrap market; 5 – High scrap value, accompanied by robust scrap market								

Processes

Process	Description
Aluminum Making	A two-step process by which the aluminum is first dissolved in a caustic bath and then precipitated out in crystals. This two-step process can be circumvented by using recycled scrap that is melted down to form new parts.
Aluminum Treatment	Aluminum receives a treatment to improve corrosion resistance and coating adhesion.
Calendaring	Metalworking process in which sheet metal is rolled out at room temperature, changing the molecular structure to make it harder and more resistant to scratching.
Casting	The process of creating a solid object by pouring molten metal into a mold and allowing it to cool.
Cutting	A variety of methods may be used to cut through various materials.
Extruding	Process in which heated metal is pushed through a cross-sectional die to create a linear part with a specific shape.
Forming	A mechanical process used to alter the shape of metal.
Machining	A form of subtractive or additive manufacturing often requiring specialty tooling to physically remove or add material to achieve a desired geometry.
Metal Finishing	Applied using grinding/sanding or polishing wheels. Finishing produces a grained/brushed or mirror-like finish on the surface, and depending on the material will increase corrosion resistance.
Powdercoating	A solvent-free finishing method in which electrically charged particles of pigmented resins are sprayed onto a product. Electrical grounding of the coated object causes the charged powder to adhere to the surface. When baked in a curing oven the deposited powder melts and fuses together to form a durable, cross-linked coating.
Sand Blasting	The process of smoothing, shaping and cleaning a hard surface by forcing solid particles across that surface at high speeds to provide an even finish.
Steel Making	Steel and stainless steel are made in one of two types of furnace: a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). A BOF is used to make steel from iron ore or from scrap steel; an EAF is used primarily to reprocess scrap steel.
Tape Application	Used to bond components. Tape is applied by hand.
Welding	A process that joins two similar metals by causing coalescence. Usually accomplished by melting the work pieces and adding a filler material to form a pool of molten metal that cools to become a strong joint.

Packaging Materials

Material	Type	Description	Disposal
Cardboard	Box	Small or light products are packaged in cardboard boxes. Reused for shipping.	Reuse/Recycle
Foam	Sheets	Micro foam sheets are used to protect the finish on products.	Reuse
Plastic	Band	Banding is used to keep products secured to a pallet during transport.	Recycle
Plastic	Shrink wrap	Shrink wrap is used to protect the finish on products and also to hold padding to products.	Recycle

Packaging Materials continued

Material	Type	Description	Disposal
Steel	Band	Banding is used to keep products secured to a pallet during transport.	Recycle
Wood	Crate	Wood crates are made to fit onsite and are reused when possible. Wood scraps are recycled into mulch.	Reuse/Recycle
Wood	Pallet	Used in shipping. Reused onsite until no longer serviceable, then recycled.	Reuse/Recycle

Transport

Method	Type	Description
Boat	Overseas	Some product components are shipped by cargo ship from overseas.
Ground	Truck/Rail	Some incoming shipments and almost all outgoing shipments to customers are sent via ground transportation. This can include truck and often rail transport depending on the final destination. We are an EPA SmartWay® Transport Partner.

Maintenance & Use

Maintenance or Use	Description	Chemicals Required
Clean with Water and Mild Cleaner	This product requires a damp cloth and a mild, nontoxic cleaner for maintenance.	Mild, water-based cleaner
Ergonomic	Product is designed for ergonomic use, which will contribute to service life.	N/A
Tobacco Smoke Control	This product may be used to help designate a smoking area away from doors, windows, and ventilation inlets.	N/A

Disposal

Method	Description
Disassemble	Product can be disassembled to separate recyclable components.
Recyclable - Fully	Product is fully recyclable.
Recycling - Scrap	Materials can be sold for scrap.
Reuse	This item can be reused in the same or different function.

SUMMARY

Category Type	Property/Component	backed, Sandstone stainless steel	backed, Satin stainless steel	backed, powder-coated stainless steel	backless, Sandstone stainless steel	backless, Satin stainless steel	backless, powder-coated stainless steel
Basic	Post-Industrial Recycled Content	19%	58%	58%	20%	58%	58%
Basic	Post-Consumer Recycled Content	46%	0%	0%	44%	0%	0%
Basic	Total Recycled Content	65%	58%	58%	64%	58%	58%
LEED v3	MR: Construction Waste Management	x	x	x	x	x	x
LEED v3	MR: Recycled Content	x	x	x	x	x	x
LEED v3	MR: Regional Materials	Contact	Contact	Contact	Contact	Contact	Contact
LEED v3	IEQ: Environmental Tobacco	x	x	x	x	x	x
LEED v4	MR: Construction Waste Management	x	x	x	x	x	x
LEED v4	MR: Sourcing...recycled content	x	x	x	x	x	x
LEED v4	MR: Sourcing...regional materials	Contact	Contact	Contact	Contact	Contact	Contact
LEED v4	MR: Material Ingredients	Contact	Contact	Contact	Contact	Contact	Contact
LEED v4	EQ: Environmental tobacco smoke control	x	x	x	x	x	x
LEED v4	EQ: Low-emitting Materials	Contact	Contact	Contact	Contact	Contact	Contact
Green Globes	3.5.4.1 Construction Waste	x	x	x	x	x	x
Green Globes	3.5.6.3 Deconstruction & Disassembly	x	x	x	x	x	x
Green Globes	3.7.2.1 Volatile Organic Compounds	Contact	Contact	Contact	Contact	Contact	Contact
Green Globes	3.7.2.9 Other Indoor Pollutants (Tobacco...)	x	x	x	x	x	x
ESTIDAMA	LBI: Smoking Control	x	x	x	x	x	x

SUMMARY - continued

Category Type	Property/Component	backed, Sandstone stainless steel	backed, Satin stainless steel	backed, powder-coated stainless steel	backless, Sandstone stainless steel	backless, Satin stainless steel	backless, powder-coated stainless steel
ESTIDAMA	LBI: Material Emissions	Contact	Contact	Contact	Contact	Contact	Contact
ESTIDAMA	SM: Hazardous Material Elimination	x	x	x	x	x	x
ESTIDAMA	SM: Construction Waste Management	x	x	x	x	x	x
SITES	Materials: Design for disassembly	x	x	x	x	x	x
SITES	Materials: Recycled content materials	x	x	x	x	x	x
SITES	Materials: Regional materials	Contact	Contact	Contact	Contact	Contact	Contact
SITES	Materials: Transparency & safer chemistry	Contact	Contact	Contact	Contact	Contact	Contact
SITES	HHWB: Minimize exposure to ETS	x	x	x	x	x	x
SITES	Construction: Divert construction materials	x	x	x	x	x	x
Materials	Aluminum	x	x	x	x	x	x
Materials	Stainless Steel	x	x	x	x	x	x
Processes	Aluminum Making	x	x	x	x	x	x
Processes	Aluminum Treatment	x	x	x	x	x	x
Processes	Calendaring	x			x		
Processes	Casting	x	x	x	x	x	x
Processes	Cutting	x	x	x	x	x	x
Processes	Extruding	x	x	x	x	x	x
Processes	Forming	x	x	x	x	x	x
Processes	Machining	x	x	x	x	x	x
Processes	Metal Finishing		x			x	
Processes	Powdercoating	x	x	x	x	x	x
Processes	Sand Blasting	x	x	x	x	x	x
Processes	Steel Making	x	x	x	x	x	x
Processes	Tape Application	x	x	x	x	x	x
Processes	Welding	x	x	x	x	x	x
Packaging	Cardboard - Box	x	x	x	x	x	x
Packaging	Foam Sheets	x	x	x	x	x	x
Packaging	Plastic - Band	x	x	x	x	x	x
Packaging	Plastic – Shrink wrap	x	x	x	x	x	x
Packaging	Steel – Band	x	x	x	x	x	x
Packaging	Wood – Crate	x	x	x	x	x	x
Packaging	Wood – Pallet	x	x	x	x	x	x
Transport	Boat - Overseas	x	x	x	x	x	x
Transport	Ground – Truck/Rail	x	x	x	x	x	x
Maintenance & Use	Clean with Water and Mild Cleaner	x	x	x	x	x	x
Maintenance & Use	Ergonomic	x	x	x	x	x	x
Maintenance & Use	Tobacco Smoke Control	x	x	x	x	x	x
Disposal	Disassemble	x	x	x	x	x	x
Disposal	Recyclable - Fully	x	x	x	x	x	x
Disposal	Recycling - Scrap	x	x	x	x	x	x
Disposal	Reuse	x	x	x	x	x	x

Forms+Surfaces is dedicated to environmental responsibility. We maintain an Environmental Management System and are continually working to improve our impact through efficiency, material selection, vendor education, employee involvement, and an unwavering commitment to being exemplary corporate citizens. If you would like additional information on our Environmental Management System or our company environmental initiatives and policies, please feel free to contact our Sustainability Team at green@forms-surfaces.com.