



Grenite Products

Sustainable for Life



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What is Grenite™?

Grenite (**Gren'**-night) is:

A piece of the future that we all want to build!

Through ecologically intelligent design Grenite products bring performance and environmental responsibility to our and future generations.

Grenite is:

Recyclable. Sustainable.

At the end of its life, old Grenite products can become the material to make new Grenite products.

100% Ecologically Correct.

Up to 85% of Grenite is recycled, post industrial material discarded from another industry. Grenite products save this material from going into landfills.

With our Soy-Matrix binder, the other 15% comes from sustainable renewable sources.

A Hard Performer.

The hardness of Grenite makes it highly scratch, stain and graffiti resistant. The unique Grenite material experiences low wear in high use applications. Grenite is waterproof, heat resistant and flame retardant. Grenite is resistant to attacks from biological agents.



Introducing Grenite

GRENITE™ IS A NEW CERAMIC BASED COMPOSITE SOLID SURFACE MATERIAL. ORIGINALLY DEVELOPED FOR USE IN THE U.S. AEROSPACE INDUSTRY, GRENITE IS NOW BEING INTRODUCED TO OTHER APPLICATIONS WHERE IT CAN PROVIDE SIGNIFICANT ADVANTAGES OVER “INDUSTRY-STANDARD” MATERIALS LIKE CORIAN®, FORMICA® AND SILESTONE® (SEE PERFORMANCE COMPARISON, PAGE 5) IN BOTH “GREEN” AND PERFORMANCE CONSIDERATIONS.

FUNDAMENTALLY, GRENITE IS DIFFERENT FROM ANY OTHER SURFACE ALTERNATIVE. GRENITE BEGINS WITH CERAMIC, WHICH IS USED FOR EVERYTHING FROM HOLDING MOLTEN STEEL TO PROTECTING THE SPACE SHUTTLE DURING RE-ENTRY. CERAMICS GIVE GRENITE UNIQUE PROPERTIES (SEE CHART PAGE 4) INCLUDING A HARDNESS THAT’S UNMATCHED BY THE COMPETITION AND PRACTICALLY IMPERVIOUS TO EVERYDAY MATERIALS, CHEMICALS, TEMPERATURES AND INFECTIOUS AGENTS.

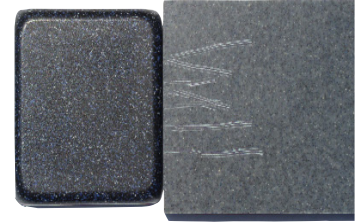
GRENITE IS ALSO HIGHLY WEAR RESISTANT. GRENITE CAN BE CALLED UPON TO DELIVER LONG LASTING PERFORMANCE AND BEAUTY IN SITUATIONS WHERE OTHER COMPETITORS FAIL.

GRENITE COMES AS READY TO USE PARTS, NOT READY TO INSTALL SHEETS.

GRENITE™ IS PRODUCED VIA COLD POUR MOLDING METHOD. MOST SHAPES THAT CAN BE MOLDED CAN THEREFORE BE MADE OUT OF GRENITE.

GRENITE PIECES CAN BE CUSTOM MOLDED TO FIT YOUR TEMPLATES OR ENGINEERING DRAWINGS. COMPLEX CURVES, RIDGES, ROLLS, TEXTURES, IN FACT JUST ABOUT ANY SHAPE THAT CAN BE MOLDED CAN BE CREATED OUT OF GRENITE. GRENITE PIECES ARE DELIVERED COMPLETE WITH ALL INLAYS, BOSSES, AND EDGE FINISHES IN PLACE. BECAUSE OF THE ACCURACY WITH WHICH GRENITE IS PRODUCED, INSTALLATION IS GENERALLY A “PLUG IN PLACE” PROCESS RATHER THAN A “FIT TO FINISH” PROCEDURE.

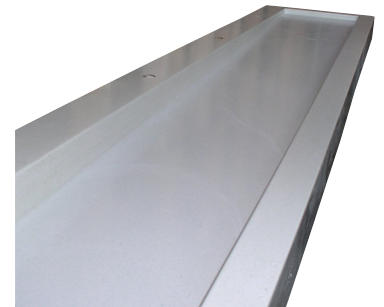
OUR RETAIL CUSTOMERS ARE FINDING THAT GRENITE IS THE PERFECT CHOICE FOR CASH WRAPS AND COUNTERTOPS; HOTELS AND RESTAURANTS ARE FINDING THAT GRENITE CAN BRING NEW PAZAZZ TO SINKS, SHOWERS AND OTHER FIXTURES; MUNICIPALITIES ARE FINDING THAT GRENITE CAN BE MADE INTO OUTSTANDING PUBLIC FIXTURES; AND DESIGNERS AND ARCHITECTS ARE FINDING THAT THE PRECISE MANUFACTURING AND COLOR MATCHING CAPABILITIES OF GRENITE CAN BE USED TO EXPAND THEIR REPERTOIRE IN EXCITING NEW WAYS.



Longer lasting beauty is Grenite's™ advantage. (Left-Grenite right Corian® Flint after being scratched by a door key.)



Grenite R - 100% recycled material



Four station Grenite restaurant sink.



Grenite store shelf



Introducing Grenite

HOW “GREEN” IS GRENITE™?

WITH EVERYONE PROCLAIMING THE “GREENNESS” OF THEIR OFFERINGS THESE DAYS, WE ARE PRESENTING THIS REVIEW OF GRENITE™ TO ALLOW YOU TO MAKE YOUR OWN DECISIONS ON GRENITE’S “GREENNESS” AND SUITABILITY FOR YOUR USES AND APPLICATIONS.

ORIGINS.

GRENITE IS A 21ST CENTURY AEROSPACE COMPOSITE PRODUCT WHICH WAS CREATED TO HAVE THE FOLLOWING CHARACTERISTICS:

- LONG SERVICE LIFE DUE TO HIGH RESISTANCE TO ANY TYPE OF DEFORMATION, INCLUDING SCRATCHING, HEATING, GRAFFITI, BIOLOGICAL INVASION, STAINING, ABRASION, OXIDATION, AND CORROSION. ADDITIONALLY GRENITE HAS NO ELECTRICAL CONDUCTIVITY.
- MECHANICAL STRENGTH WHICH IS SUPERIOR TO MANY MONOLITHIC MATERIALS.
- A POSITIVE ENVIRONMENTAL FOOTPRINT OVER ITS LIFE CYCLE.

COMPOSITION.

FUNDAMENTALLY, GRENITE IS A COMPOSITE MATERIAL MADE OF TWO PARTS

- >85.0% GRANULAR CERAMIC OR CERAMIC COATED MATERIAL
- <15.0% EPOXY OR SOY BASED BINDERS

THE GRANULAR CERAMIC COMPONENT IS OBTAINED FROM VARIOUS SOURCES AND IS AVAILABLE AS VIRGIN OR RECYCLED PRODUCT. THE CERAMIC COMPONENT IN GRENITE-R IS 100% RECYCLED POST INDUSTRIAL WASTE. THE CERAMIC COMPONENT IS AN INERT MATERIAL WITH A NFPA RATING OF 1-0-0.

DEPENDING UPON THE APPLICATION THE BINDING MATRIX IS EITHER AN EPOXY OR A SOY BASED PRODUCT. OUR SOY BINDER IS FULLY RENEWED WITH EACH NEW SOY BEAN CROP AND THEREFORE DOES NOT DEplete ANY NATURAL RESOURCES OR USE ANY PETROLEUM BASED PRODUCTS.

THE RESULTING GRENITE PRODUCTS ARE BOTH RECYCLABLE, SUSTAINABLE AND ENVIRONMENTALLY FRIENDLY.



*“Waves of White”
Grenite art.*



*City of Manhattan Beach bench
courtesy of Stacy Dukes Design,
Santa Ana, CA*



*Grenite nesting tables,
Universal Studios, CA*



*Stacy Dukes Design Low Tide
Bench for the City of Manhattan
Beach, California*



Grenite Properties

HARDNESS	HARDEST SOLID SURFACE MATERIAL COMMERCIALY AVAILABLE AS MEASURED ON THE ROCKWELL H SCALE
COLOR STABILITY	NO CHANGE AFTER 100 HOURS CONTINUOUS EXPOSURE TO DISCOLORING AGENTS
BOILING WATER SURFACE RESISTANCE	NO CHANGE WHEN BOILING WATER IS APPLIED
HIGH TEMPERATURE RESISTANCE	NO CHANGE WHEN SUBJECTED TO INCIDENTAL CONTACT WITH OBJECTED HEATED TO 500°F
CONDUCTIVE HEAT RESISTANCE	NO CHANGE TO MATERIAL WHEN INCIDENTALLY HEATED
STAIN RESISTANCE	NO CHANGE AFTER 100 HOURS CONTINUOUS EXPOSURE TO STAINING AGENTS. RESISTANT TO MOST GRAFFITI PAINTS
FUNGI AND BACTERIA	NO ATTACK
FLAMMABILITY	FLAME RETARDANT - 85% OF GRENITE IS INERT MATERIAL
WATER PERMEABILITY	NO LEAKAGE AFTER 48 HOURS UNDER 1 ATMOSPHERE
AIR PERMEABILITY	NO LEAKAGE AFTER 48 HOURS UNDER 1 ATMOSPHERE
THERMAL COLLECTION AND RERADIATION	SIMILAR TO CONCRETE
RECYCLABILITY/SUSTAINABILITY	RECYCLABLE AND SUSTAINABLE TO MAKE NEW GRENITE PRODUCTS
LIFE EXPECTANCY	SUBJECT TO APPLICATION. HIGH WEAR RESISTANCE - GREATER THAN ANY OTHER SOLID SURFACE MATERIAL AVAILABLE

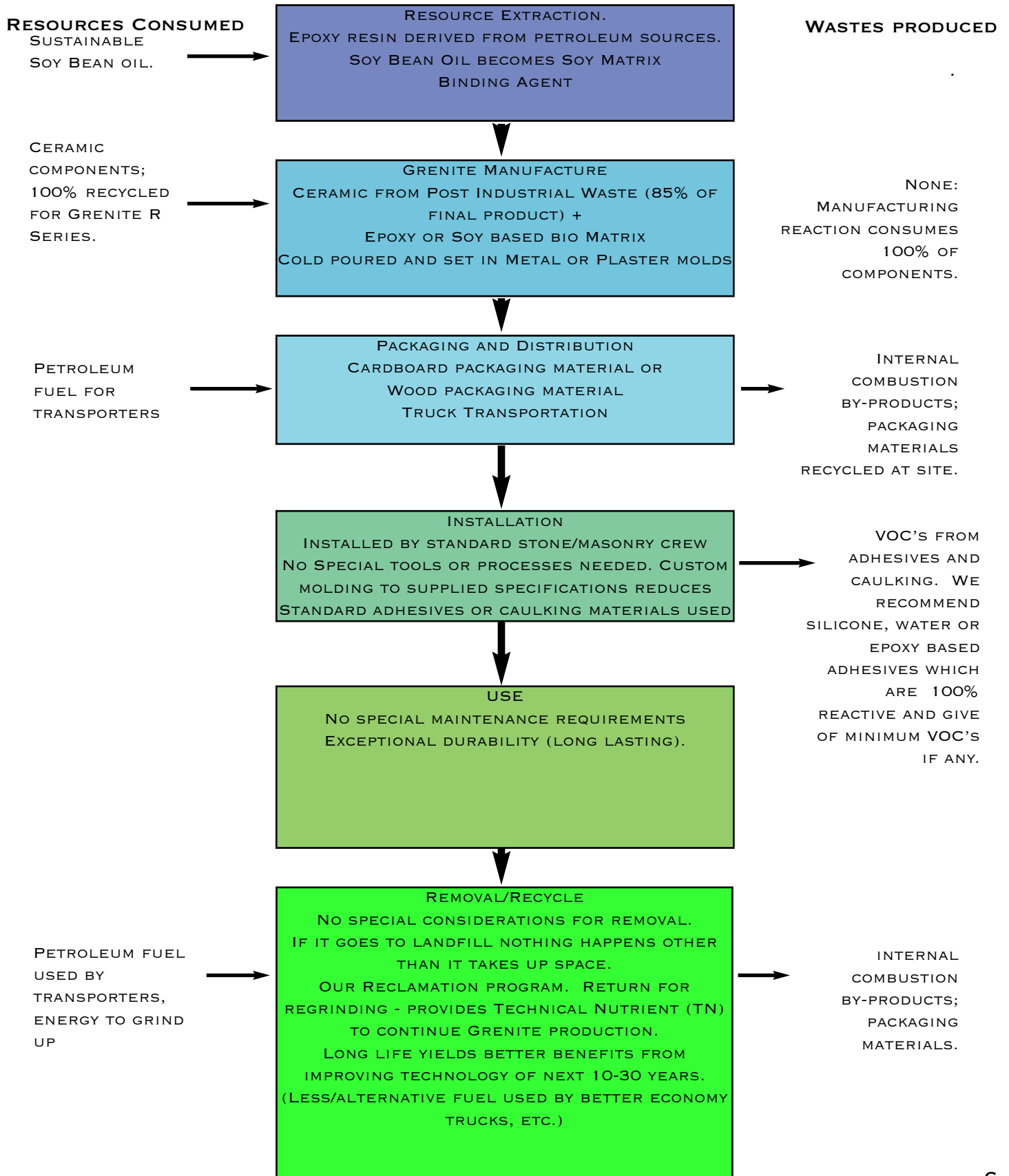


Solid Surface Materials Comparisons

Performance Feature:	Grenite™	Engineered Stone	Granite	Solid Surfacing	Laminate	Stainless Steel	Ceramic Tile	Marble	Concrete
Superior Wear Resistance, Scratch Resistance, Stain Resistance. Unaffected by incidental contact with objects heated to 500°.	Yes	Yes	No	No	No	No	Yes	No	No
Sustainable through many recyclable life cycles.	Yes	?	No	?	No	Yes	No	No	No
Application Versatility (Correct for many uses including countertops, floors, wall accents, formed utility fixtures, indoor, outdoor)	Yes	Yes	No	Yes	No	Yes	No	No	No
Repairable for scratches.	Yes	Yes	No	Yes	No	Yes	No	No	No
Repairable for gouges and chips.	Yes	No	No	Yes	No	No	No	No	No
"Seamless" after final installation	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Available Colors.	Many	50+	Limited	117+	45	1	250+	Limited	1000's
Color matching. Custom colors available.	Yes	No	No	No	No	No	No	No	Yes
Cost per Square Foot, installed (\$)	\$20-\$100	\$60-\$95	\$60-\$120	\$45-\$100	\$18-\$35	\$145-\$180	\$25-\$100	\$45-\$120	\$40-\$135
Leading Example	Grenite™	Silestone®	Walker Zanger	Corian®	Formica®	John Boos	Dal-Tile™	Walker Zanger	Cheng Design



Grenite Life-Cycle Environment Analysis*





Grenite Cradle to Cradle Certification Status*

GRENITE CRADLE TO CRADLE CERTIFICATION CHECKLIST					
CRITERIA	TN or BN Certification	Silver	Gold	Platinum	GRENITE
1.0 Materials					
All material ingredients identified (down to the 100 ppm level)	●	●	●	●	✓
Defined as Biological or Technical Nutrient	●	●	●	●	✓
All materials assessed based on their intended use and impact on Human/ Environmental Health according to the following criteria:					
<u>Human Health</u>					
<u>Environmental Health</u>					
Carcinogenicity					
Endocrine Disruption					
Mutaenicity	●	●	●	●	✓
Reproductive Toxicity					
Teratogenicity					
Acute Toxicity					
Chronic Toxicity					
Irritation					
Sensitization					
Strategically developed to optimize all remaining problematic ingredients/materials	●	●	●	●	✓
Product formulation optimized (i.e. all problematic inputs replaced/phased out)			●	●	✓
Meets Cradle to Cradle emission standards				●	✓
2.0 Material Reutilization/Design for Environment					
Defined the appropriate cycle (i.e. Technical or Biological) for the product and developing a plan for product recovery and reutilization	●	●	●	●	✓
Well defined plan (including scope and budget) for developing logistics and recovery systems for this class of product			●	●	
Recovering, remanufacturing or recycling the product into new product of equal or higher value				●	✓
Product has been designed/manufactured for the technical or biological cycle and has a nutrient (re)utilization score >= 50		●	●	●	✓
Product has been designed/manufactured for the technical or biological cycle and has a nutrient (re)utilization score >= 70			●	●	✓
Product has been designed/manufactured for the technical or biological cycle and has a nutrient (re)utilization score >= 85				●	✓
3.0 Energy					
Characterize energy use and source(s) for entire production		●	●	●	✓
Use current solar income for product manufacture/assembly			●	●	
Use current solar income for entire product				●	
4.0 Water					
Characterize water flows associated with product manufacture		●	●	●	✓
Water discharge from facility is as clean, or cleaner, than the water coming in			●	●	
Water discharge from facility of manufacture and from all facilities in the product supply chain is as clean, or cleaner, than the water coming in				●	
5.0 Social Responsibility					
Publicly available corporate ethics and fair labor statements, signed by CEO		●	●	●	
Identify third party assessment system and beginning to collect data for that system			●	●	
Acceptable third party social responsibility assessment				●	

*Our ultimate goal is to have Grenite™ demonstrate its environmental responsibility by attaining the highest “Green” standard available, Cradle to Cradle Platinum Certification. Page 6 shows our life cycle analysis, page 7 shows our certification progress.



Classic Colors



ALMOND
G-E-25



BIRCH
G-E-26



MERCURY
G-E-9



CALYPSO
G-E-5



SMOKE
G-E-31



RAPID
G-E-8



FLESH
G-E-10



ROYAL
G-E-34



PLUTO
G-E-14



INDIGO
G-E-16



GARDEN
G-E-19



CARAMEL
G-E-28



LAVA
G-E-22



GRAFFITI
G-E-23



BARK
G-E-21

CUSTOM MATCHED
COLORS AVAILABLE.



R Series Colors



NATURAL
R-E-01



CRUNCH
R-E-02



ECLIPSE
R-E-03



EXPO
R-E-04



JAZZ
R-E-05



KHAKI
R-E-06



MOSS
R-E-07



ORCHID
R-E-08



TOBACCO
R-E-09



PERSIMMON
R-E-10



CUSTOM MATCHED
COLORS AVAILABLE.

Grenite™ is a trademarked, patent-pending development
of
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Under license from Creative Composites Corporation,
the marketing of Grenite is coordinated by Greneker Solutions.

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