Sustainable Safety

for Playgrounds.

POWERBASE/PLAY
BY BROCK

The most advanced base system for artificial turf playgrounds.

SAFETY: PowerBase/Play™ is designed to create a surface with an elevated degree of safety, year after year, in any climatic condition.

ENVIRONMENT: PowerBase/Play™ is made from a 100% recyclable material and is certified to the world's most stringent environmental standards.

DRAINAGE: The vertical and lateral drainage capability of PowerBase/Play™ results in a reliable, efficiently draining play area, while also addressing water storage for storm water management.

DESIGN: PowerBase/Play™ is a thermal insulation and drainage layer that can be installed over both permeable or impermeable bases, greatly reducing the risk of frost heave and the need for costly drainage systems.

INSTALLATION: PowerBase/Play™ panels install with maximum precision using a unique patented interlocking system, thus eliminating the need for glues or tapes. PowerBase/Play™ has been engineered as a dimensionally stable system that can be installed in virtually any climatic condition. A typical playground installs in less than a day.

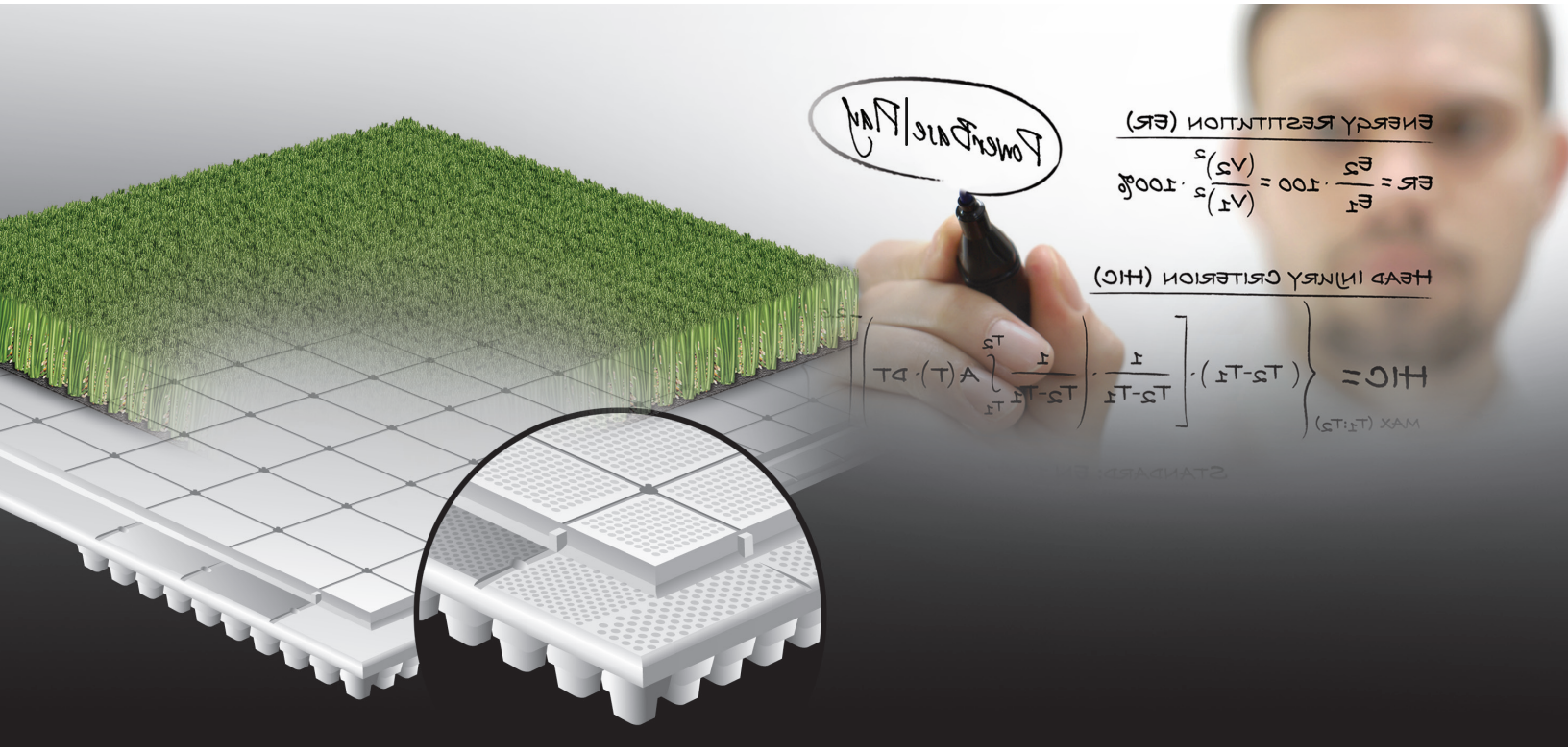
10-YEAR WARRANTY: The quality and performance of PowerBase/Play™ doesn't change with time, so years of reliable safety are guaranteed. That's serious peace of mind for the installer and owner.

QUALITY ASSURANCE: PowerBase/Play™ is manufactured in an ISO-certified factory, will not decay or degrade over time, and is resistant to bacteria, fungi, and chemicals.

Our Commitment to the quality and safety of play:

Established in 1998 to serve the athletic equipment and artificial turf field markets, Brock has developed a variety of products that enhance athletic performance, safety and the quality of play. Our broad line of technologies for artificial turf has been used successfully from NFL and NCAA levels, to children's leagues and at the local park. Our systems have produced fields that last longer, are safer to play on and reduce environmental impact. With the proliferation of PowerBase/Play™ Brock has now committed its technology and engineering know-how to improving children's playgrounds and play areas.

Engineered for predictable long-term safety.



Head Injury Criteria is the international safety standard for playgrounds (EN1177 / ASTM F1292). This test determines the risk of a head injury as a result of an impact with a surface. Understanding the H.I.C. of a playground surface is to accurately predict the likelihood of a moderate, severe, or catastrophic head injury. Brock's patented design of Impact-absorbing pistons on the bottom of each PowerBase/Play™ panel, together with a unique overlapping joint system have been specifically engineered to provide optimal and consistent H.I.C. test results.

Quality that every playground needs.

PowerBase/Play™ by Brock is the only complete base system that has been designed and engineered specifically for artificial turf playgrounds. Each PowerBase/Play™ panel is individually manufactured and inspected for quality. Each feature of PowerBase/Play™ panel optimizes function for predictable safety, drainage, turf stability and precise fit.

PowerBase/Play™ is produced from 100% pure high-grade expanded polypropylene. This non-toxic and highly durable material will not decay or degrade. PowerBase/Play™ is resistant to bacteria, fungi, and chemicals, is 100% recyclable and complies with the most stringent environmental standards.

Cradle to Cradle™. The design concept that loves nature.

Brock uses an eco-effective approach to design that allows manufacturers and customers to celebrate the quality of materials used in a product. The central idea behind this concept is that a product must be created in such a way that it becomes and asset, not a liability, following it's initial use and never goes to a landfill.

PowerBase/Play™ is manufactured as an interlocking panel system with the highest quality expanded polypropylene, well known for its longevity and environmental safety. After decades of use, the panels can be easily removed, cleaned and reused in their next life as a quality, durable material with minimal use of additional energy or waste. Alternatively, as a pure mono-component material, the panels can be easily recycled and remade into other quality products, eliminating the demand for new fossil fuels. Most manufactured and poured-in-place materials are hybrids which are mixtures of components that are difficult or impossible to salvage. These materials are simply more expensive to recycle than to dispose of, which means that they inevitably end up being burned or in a landfill. PowerBase/Play™ is instead a pure non-toxic product that can be used for closed-loop recycling over and over again.

IMAGINE A WORLD IN WHICH ALL PRODUCTS ARE DESIGNED ACCORDING TO THE CRADLE TO CRADLE CONCEPT

- 100% closed loop Recyclable
- 100% non-toxic and lead free
- 100% pure polypropyelene
- Material recovery and re-use
- No landfill costs or environmental consequences

CERTIFIED CM
cradle to cradle

BROCK®
COOLER. FASTER. SAFER.

www.brockusa.com / 877-276-2587

US Patents: 8,236,392, 8,353,640 and D637318 and other patents pending.

POWERBASE PLAY
BY BROCK

Typical Properties

Product Number	PLB50XL	
Material Type	Expanded Polypropylene	
Product Format	Panels with edge overlap	
Product Thickness	2.0 in (50.8 mm)	
Part Size, nominal net coverage	23.59 sq ft (2.19 sq m)	
Panel Length	73.5 in (1.87 m)	
Panel Width	49.0 in (1.24 m)	
Panel Weight	5.6 lbs (2.6 kg)	
Tensile Strength†	55 psi	ASTM D3575
Tensile Elongation†	16%	ASTM D3575
Compression Strength† @ 25% strain @ 50% strain	 22 psi 32 psi	ASTM D3575
Vertical Permeability	> 2000 in/hr	EN 12616
Water Absorption† After 24 hr immersion	0.0081 g/cc	ASTM C272
Linear Thermal Expansion† per 1° C per 20° C	 0.08 mm/m 1.65 mm/m	ASTM D696
Flammability†	PASS (< 100 mm/min)	FMVSS 302
Resistance to Chemicals†	1 / 2	JSP Method based on ASTM F925
Microbiological Analysis† bacteria resistance fungi resistance	 no growth no growth	 ASTM G22-76 ASTM G21-96
Environmental Standards Testing Cradle to Cradle Heavy Metals / Mercury VOC's SVOC's CCR Title 22 COEHHA Proposition 65	 Certified Compliant to EPA human health standards, surface water quality, groundwater quality Compliant Compliant	 Cradle to Cradle Products Innovation Institute EPA 6010B, 7470A, 7471A EPA 8260B EPA 8270C

DATA ARE TYPICAL PROPERTIES ONLY. THIS DOCUMENT DOES NOT CREATE ANY WARRANTY, EXPRESS OR IMPLIED

The Brock PowerBase product group includes PowerBase PLAY, PowerBase PRO, and PowerBase YSR

†Properties of molded EPP base material at nominal density of product.

US and international patents and patents pending. www.brockusa.com

MANUFACTURER'S SPECIFICATIONS:

DuraPlay Surfacing System

PART 1 – GENERAL

1.01 SCOPE

Provide all materials, labor and equipment necessary to install the DuraPlay Surfacing System.

1.02 DESCRIPTION

The DuraPlay Surfacing System is primarily used for playgrounds. It provides overall consistent fall protection and can be easily customized to meet any safety, design and aesthetic requirements. This ADA compliant surfacing creates a resilient, monolithic pad in turn, providing a safe, clean, maintenance-free space for children to play on.

1.03 COMPOSITION

DuraPlay Surfacing System consists of two layers.

A. Base mat made of 100% recycled styrene butadiene rubber (SBR) mixed with high-grade polyurethane.
B. Top Surface made of ethylene propylene diene monomer (EPDM) or Thermoplastic Vulcanizate (TPV) mixed with polyurethane.

1.04 QUALITY ASSURANCE

A. Product
    1. All components of the DuraPlay Surfacing System shall be obtained from DuraPlay or its authorized distributors. No substitutions or additions of other materials shall be submitted without prior written permission from DuraPlay, Inc.
    2. System shall be warranted by manufacturer for any defects in material and workmanship.
    3. No prorated warranties permitted.
B. Qualification
    1. Surface must be IPEMA certified.
    2. Test results- see applicable standards section 2.2, A.
    3. Manufacturer must be in business at least 5 years.
    4. The Applicator/ Installer shall be trained and approved by DuraPlay, Inc. and must have installed a minimum of 10 applications.

C. Applications
    1. Acceptable substrates for the DuraPlay Playground System include asphalt, concrete and compacted stone. Other substrates shall be approved by Duraplay, Inc. prior to application.
    2. Conditions of all substrates with respect to structural and drainage performance must be evaluated and approved by the applicator prior to applying the DuraPlay Surfacing System. Owner or General Contractor is responsible for drainage.
D. Acceptable Manufacturers
    1. DuraPlay, Inc.
E. Proposed substitutions are required to provide product data demonstrating that they meet or exceed product specifications complying with this section.

1.05 SUBMITTALS
A. Material product data
B. DuraPlay Color Chart
C. Sample colors if needed
D. Warranty
E. Product liability Insurance Certificate
F. IPEMA Certification

1.06 DELIVERY, STORAGE & HANDLING
A. Deliver all materials in good condition, in original unopened packages with labels intact.
B. Store all materials protected from weather and at temperature not less than 32° F (0°C) for any 12-hour duration.

1.07 JOB CONDITIONS
A. Ambient air temperature shall be 45° F (0°C) or greater and rising at the time of installation of the surface and shall remain at 33° F (0°C) or greater for at least 24 hours after application.
B. Adjacent materials and the surface shall be protected during installation, while curing and unattended, from weather and other damage.

1.08 ALTERNATES AND ALLOWANCES
Systems to be considered equal to those specified herein shall be approved by the architect, in writing, at least ten working days prior to the project bid date.

PART 2 – PRODUCTS

2.01 GENERAL
All material components of the DuraPlay Surfacing System shall be obtained from the same manufacturer or its authorized distributers.

2.02 MATERIALS

A. DuraPlay Primer: A single-component moisture cured polyurethane primer.
B. DuraPlay Binder: An elastic polyurethane pre-polymer, MDI based, low odor, capable of excellent weathering and binding characteristics. Binder shall contain no TDI Monomers.
C. DuraPlay Black SBR:
    1. Shall be recycled SBR Rubber
    2. Shall be cryogenically processed
    3. Shall be 3/8" shredded mesh or 6/20 mesh and contains less than 4% dust.
    4. Shall be packed in suitable bags to protect SBR from moisture
    5. Base mat thickness: 1.5 to 4.25 inches, depending on critical fall height of playground equipment.
D. DuraPlay EPDM Rubber or Thermoplastic Vulcanizate (TPV):
    1. A manufactured rubber having a density of 1 to 4mm.
    2. Available in standard colors: terra cotta, blue, green, beige, black and premium colors: red, bright green, dark green, purple, light blue, azure, turquoise, cream, brown, earth yellow, yellow, orange, charcoal, grey, light grey, pink (colors subject to change).
    3. Available in any mixture of above colors.
    4. Thickness is nominal ½" or 2.44 lb. per square foot.

2.03 TECHNICAL INFORMATION

A. Applicable Standards
    1. Shock attenuation under ASTM-F-1292 – GMAX less than 200
    2. Head Injury Criteria – less than 1000
    3. Non-slip characteristics under ASTM-E-303
    4. IPEMA Certified
    5. Flammability under 8S -5696 and ASTM-D-2859
    6. Tensile strength (ASTM D412) - 60 psi
    7. Tear resistance (ASTM D624) – 140%
B. Chemical Properties
    1. Base mat: 85% SBR Rubber Buffings,15% Polyurethane Binder
    2. Top Surface: 78% EPDM or TPV Rubber Granules, 22% Polyurethane Binder

PART 3 – EXECUTION

3.01 INSPECTIONS

A. Prior to application of DuraPlay Playground System, the substrates shall be examined by DuraPlay's installation technician for compliance with the contract document of Duraplay specifications. The general contractor and architect shall be advised of all discrepancies. Work shall not proceed until unsatisfactory conditions are corrected.

3.02 INSTALLATIONS

A. DuraPlay Primer: Apply primer with a short nap roller at the rate of 300 square feet per gallon. Do not over saturate substrate. Prime area 1.5 - 2 feet around perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or edging that

will contact the surfacing system. NOTE: Do not use DuraPlay primer over compacted stone.

B. DuraPlay Resilient Base Mat:
    1. Apply mixed binder/SBR at desired thickness 1/8” higher than measuring bar.
    2. Using a steel pool trowel, even binder/SBR mixture. Be sure to continuously lubricate trowel with kerosene, diesel fuel or soapy water. Do not saturate surface with these lubricants.
    3. As the mixture is leveled apply a downward pressure onto the surface so that the mixture compacts tightly.
    4. Check surface to be level.
    5. Allow to dry for 10 to 12 hours or until no indentations can be made by foot traffic.

C. DuraPlay Top Surface:
    1. Apply mixed binder/granule at a nominal ½” thickness.
    2. Using a steel pool trowel, spread even rubber/granule mixture. Be sure to continuously lubricate trowel with kerosene, diesel fuel or soapy water.
    3. As the mixture is leveled apply a downward pressure onto the surface so that the mixture compacts tightly.
    4. Check surface to be level.
    5. Cold joints must be cut and primed prior to installing a different color surface.
    6. Allow to cure for a minimum of 24 to 48 hours prior to usage. At the end of the minimum curing period, verify that the top surface is sufficiently dry and firm to allow foot traffic and use without damage to the surface. Do not allow foot traffic or use of the surface until it is sufficiently cured.

D. Edge Details: Available upon request.

3.03 WARRANTY

The standard warranty period is 5 years from the date of project installation completion.

3.04 PROTECTION

It is the responsibility of the customer/owner to provide security to protect the surface from foot traffic or vandalism during the 48 hour cure period.

END OF SECTION

If any questions arise do not hesitate to contact DuraPlay Inc. for technical assistance
512.847.2473

DuraPlay.com
150 Brownson Lane, Driftwood, TX 78619

17-Jan-23

MANUFACTURER'S DECLARATION

Since 1871, Ecore has been transforming reclaimed materials into unique surfaces that make people's lives better. Ecore's manufacturing process involves taking materials such as cork and rubber, (either rubber from commercial truck tires, other synthetic rubber or rubber created onsite), grinding it to a useable size, and binding it together into a new product using an elastomeric network involving polyurethane. This general process has continued, unchanged, to the present; we are still transforming reclaimed material into new products.

Ecore is concerned with the health and safety of all its employees and customers. As such, Ecore has had periodic testing performed for an extensive list of hazardous chemicals to support the statement that Ecore products do not contain any substances listed on the **REACH Candidate List of SVHC (17-Jan-23)** or the **RoHS 3 (EU.Directive 2015/863)** in any levels above 0.1% (w/w), including items such as VOCs, PAHs, and heavy metals such as Lead, Cadmium, Hexavalent Chromium, Arsenic, and Mercury. Ecore will continue to follow the applicable regulations and monitor any changes in the industry.

Regarding California Proposition 65, Ecore makes the statement that there are no chemicals on the **CA Prop-65 list (25-Feb-22)** intentionally added during processing. In addition, the US Tire Manufacturers Association (USTMA) has stated that the requirements do not create a need for a warning label, based on the information available from tire manufacturers regarding the composition of tires, relevant daily exposure calculations, and the expert advice from the association. Hence, there is no expectation of exposure to any substances on the lists, in significant levels that would require a warning.

Our products are also free of any detectable level of concern for the following materials:

- Asbestos
- Formaldehyde
- Phthalates
- Flame Retardants, such as TCPP or TDCPP
- Latex
- "Conflict Minerals" as defined by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, section 1502.
- All products other than the Vinyl RX product line are free of PVC.

Wanda M. Welch
Research & Development Manager
Ecore International, Inc.