



SPECIFICATIONS FOR RUBAROC SAFETYDECK (FOR PLAYGROUND SURFACES)

PART I – GENERAL

1.1 WORK INCLUDED: Work in this section includes furnishing all labour, materials, equipment, and services required to install Rubaroc Safetydeck (a porous, impact attenuating, poured-in-place granular EPDM or SBR rubber surface over concrete, asphalt or compact crushed stone) for residential and commercial playgrounds. It will be completed to architects drawing details and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE: Concrete, brickwork, compact crushed stone, asphalt, geotextile fabric/filter cloth, water-drainage materials, landscaping services, playground equipment, retaining walls, curbs or any other base or surrounding material. Note: New concrete and/or asphalt must be allowed to cure for 28 days.

1.3 SUBMITTAL: Submit full range of Rubaroc Safetydeck sample colours and finishes available, sales literature, playground warranty information, liability insurance certificates, material safety data sheets & previous Rubaroc Safetydeck playground installation fall height compliance tests.

1.4 DELIVERY AND STORAGE: Deliver materials in manufacturer's clearly labeled, unopened containers. Store and handle in a manner, which will prevent intrusion of foreign matter and will assure protection from weather. All resins and solvents should be stored at a temperature of not less than 0 degrees C (32 degrees F). Bags of topcoat rubber should be protected from moisture.

1.5 SCHEDULING: Co-ordinate the delivery of the materials with the scheduled time of installation to insure minimum storage time at the project site.

1.6 WARRANTY: All Rubaroc supplied materials under this section shall be installed by a Rubaroc Dealer authorized by the manufacturer and shall be guaranteed by the manufacturer against defects only as described in the manufacturer's warranty to the authorized Rubaroc Dealer. The labour and installation warranty period for all residential and commercial playgrounds or play areas shall be ONE to FIVE (1 – 5) YEARS as specified and provided by the authorized Rubaroc Dealer.

1.7 CONTRACTOR: The authorized Rubaroc Dealer must have installed at least 25 applications of a similar size and have a minimum of 5 years experience in the poured-in-place rubber safety surfacing industry.

1.8 JOB CONDITIONS: The air & ground temperature is recommended to be above 5 degrees Celsius (41 degrees Fahrenheit) day and night. Any temperatures below this may affect the speed and quality of the installation. The relative humidity is recommended to be between 40%-80%. The substrate must be dry for 24 hours before and 24 hours after the installation.



PART II – PRODUCTS

2.1 MANUFACTURER: Recycled granular or virgin EPDM or SBR rubber granules and accessory materials such as polyurethane resin binders and solvents shall be produced and/or supplied by Rubaroc International Incorporated.

2.2 MATERIALS:

- A. **Rubber Granules** - Pure vulcanized EPDM rubber granules ranging in size from 0.5-1.5mm minimum dimension (Rubaroc Premium) to 1-4mm maximum dimension (Rubaroc Classic). EPDM rubber shall be UV stable.
- B. **Polyurethane Resin Binder**- Resin (Chemical Family: Aromatic (Rubaroc Standard Resins) or Aliphatic (Rubaroc UV Resins) Isocyanate as specified by client). Binder shall be 100% polyurethane and contain no TDI. Accelerators may be used with certain aliphatic binders when job site temperature requires it.
(Aliphatic binders should be considered on indoor applications where there is UV exposure or where light coloured rubber granules are used.)
- C. **Primer** – Aromatic or Aliphatic resin as above thinned with solvent.
- D. **Solvent** – Dibasic Ester.
- E. **Finished Product**: - Shall meet or exceed current ASTM F1292 and CAN/CSA Z-614 for GMAX and HIC. Note: A lower number than the standard does not necessarily equate to a superior product.

2.3 TESTING: The system should be tested to the following standard.

- A. Hardness: ASTM D-2444 94% recovery
- B. Water Absorption: ASTM D-530 +6.5%
- C. Ultraviolet Resistance: ASTM D-3137
- D. Fungal Resistance: trace to no growth ASTM G-21
- E. ASTM-F1292 and CAN/CSA-Z614 (HIC less than 1000, GMAX less than 200)
- F. Spread Of Flame Resistance: ANSI/UL 790 (ULC-S107) Class A
- G. Accelerated: weathering no change after 2000 hours
- H. Freeze /Thaw: no change after 30 days at minus 50 in 24 hour period



PART III - EXECUTION

3.1 PREPARATION: Granular "A" Base

- A. When using "A" gravel as a base, it is recommended to be a minimum of 25mm thick to 100mm thick once compact. Consult a landscape architect to confirm exact depth required for the specific environment.
- B. The base shall be compacted to 95% Proctor Density.

3.2 INSTALLATION: Recycled SBR Rubber Base

- A. Base mat thickness will vary depending on the fall height compliance required.
- B. Certain fall zones may require a loose crumb SBR rubber base in varying thickness depending on the applicable fall height without the use of resin. Grading of granular base shall retain this material (see drawing below for an example of such grading).
- C. A crumb rubber and resin base shall be applied, including over any loose crumb rubber layer.
- D. The crumb rubber/resin base layer shall be mixed in a mechanical mixer with an Aromatic polyurethane resin binder at a ratio of approximately 90/10. Base may range in thickness from 6mm up to 50mm depending on required fall height compliance.
- E. Material needs to be mixed for a length of time to allow proper coating of all rubber granules with the Aromatic resin.
- F. On installations where there is no retaining border such as concrete curbs or pressure treated timbers, rolled edges or bevels shall be implemented.
- G. Let base cure for fully for approximately 24 hours.

3.3 INSTALLATION: EPDM Top Coat

- A. Using a short nap roller, roll onto base coat surface one coat of primer at approximately 40-50 square feet per liter.
- B. The selected EPDM coloured granules for topcoat should be coated with resin in a mechanical mixer at a rubber to resin ratio of approximately 80/20. Topcoat should be trowelled out to approximately 6-12mm in thickness. It is recommended that the mixing of the topcoat be carried out with an electric vertical shaft mortar mixer to ensure consistency and assuring complete coverage of each granule.
- C. It should be noted that EPDM makes an excellent topcoat as the rubber is coloured throughout the entire granule. It is not a black recycled SBR rubber granule mixed with a coloured urethane coating which will quickly show wear patterns and fading back to its original black colour.



- D. Black recycled granule with coloured urethane coating topcoat can be provided if requested by client.

3.4 HEALTH & SAFETY:

- A. When using either polyurethane resin or solvent products, whether during mixing or application, the wearing of personal protective equipment is essential. This will protect contact of the skin directly with the materials. Gloves will be required to be changed regularly throughout the installation and sufficient quantities of same should be allowed for.
- B. Should any polyurethane resin or solvent come into contact with the skin, this must be immediately washed off using suitable detergents and water.
- C. When troweling the product it is recommended that rubber kneepads with Velcro straps or knee boards be used.
- D. Read all Material Safety Data Sheets (MSDS) prior to installation. All relevant MSDS sheets should be on site during installation.
- E. Local laws and regulations in regards to health and safety should be observed at all times.

3.5 SITE PROTECTION:

- A. Erect barricades or caution tape as required preventing inadvertent pedestrian traffic on the finished floor surface for a period of 24-48 hours
- B. On large projects where access to the public is possible, barricades and signs must be implemented around the working area, again to avoid any inadvertent traffic. This is more relevant on projects taking more than one day to complete.

3.6 CLEAN UP:

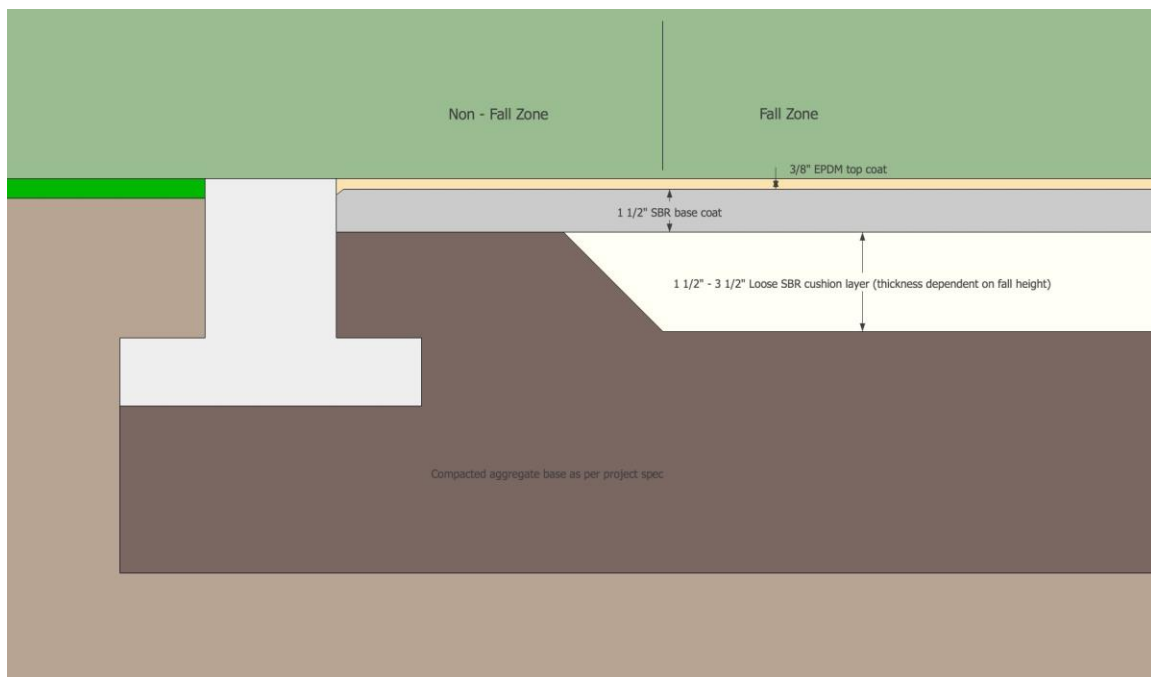
Upon completion of work in the section, remove all tools, equipment, unused materials, and debris from the site; clean the immediate area.

Please Note:

After the completion of the surface, the EPDM granules may appear to take on a yellowish colour which we refer to as “ambering”. This is a result of using an MDI (Aromatic) urethane which gives long-term flexibility to the surface, but also a short-term ambered colour. This will “burn off” with normal activity and sunlight in a short period of time.



A typical Rubaroc detail for playgrounds:



NOTE:

“Fall zone” and “Non – Fall Zone” shown in the above detail is not necessarily considered as the same fall zone and non-fall zone as specified by EN, CSA, ASTM or other industry standards.

The actual fall height of the applicable play equipment will dictate what areas of a playground rubber surface should be considered as fall zone as shown in the detail. An on-site meeting with a Rubaroc dealer or representative qualified in local playground standards prior to starting any rubber installation is recommended to establish the correct fall zone and non-fall zone and fall heights and the applicable material thickness required.