CushionFall Sport™

MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES

MATERIAL SPECIFICATION: (SHORT)

Infill: The infill system shall consist of a color encapsulated crumb rubber. It shall consist of SBR rubber granules in the synthetic turf manufacturer's designated proportion, installed as per the approved manufacturer's recommended installation system.

The Crumb Rubber Infill (CRI) material used in synthetic turf prior to encapsulation shall be derived from whole, vulcanized highway vehicular tires. Tires more than 10 year old from date of production are not allowed. The Crumb Rubber shall have a specific gravity range from 1.1 minimum to 1.2 minimum as determined by ASTM D297.

Encapsulation: The colorant is a dual coating process of a non-chromatic color applied utilizing a cross linkable topcoat coating technology to achieve long term durability of the SBR rubber. Colorant must be UV-resistant and free of heavy metals. The encapsulation system/process shall be as per CushionFall Sport or approved equal and must be warranted by the manufacturer for a period of no less than 8 years. Color to be Green (or Khaki).

MATERIAL SPECIFICATION: (DETAILED)

CushionFall Sport is an infill material placed on top of the synthetic turf backing system, between the synthetic surface fibers. CushionFall Sport infill is needed for resiliency as well as structural integrity and directional stability of the synthetic turf system. The intent is to offer a product that provides the aesthetics and playing conditions of a plush, pristine natural grass surface in ideal conditions.

1. CushionFall Sport infill material is comprised of 100% color-coated and encapsulated styrene butadiene rubber (SBR) rubber (ambient or cryogenically processed) to be used exclusively or in combination with sand.

2. CushionFall Sport granules shall contain minimal dust and be clean, uniformly sized particles consistent in shape and particle size distribution.

3. The colorant applied to the surface of the SBR rubber granules will be specifically designed for use in athletic field surfaces, non-chromatic and free of all heavy metal.

4. The coating and encapsulation process will reduce volatile organic compounds (VOCs) and heavy metal runoff of the ambient SBR rubber to be coated.

5. The material will withstand full climatic exposure in the USA, be resistant to ultraviolet light and heat degradation, and shall allow rapid free movement of surface run-off through turf.

6. All rubber utilized by Colorbiotics to produce the CushionFall Sport product must conform to the Synthetic Turf Council's 2011 recommended guidelines as established in October, 2010 and outlined below:

    a. The crumb rubber shall be derived from used whole vulcanized automobile, SUV, and truck tires (DOT tires for over the road). Buffings, bladders and tubes shall not be used as feedstock.

b. The crumb rubber shall have a specific gravity range from 1.1 minimum to 1.2 maximum as determined by ASTM D 297 (including any modifications made by ASTM in the future).
c. The crumb rubber shall have an ash content of between 5 and 15% as determined by ASTM D 297 (including any modifications made by ASTM in the future).
d. The crumb rubber shall not contain more than .01% (of the total weight of crumb rubber) liberated fiber (no more than 0.6 lbs per ton) tested per ASTM D 5603. The liberated fiber remaining in the CRI shall be free flowing and not agglomerated into clumps of fiber as received at the job site.
e. The crumb rubber shall be dry and free flowing.

QUALITY REQUIREMENTS

1. Colorbiotics, the manufacturer of CushionFall Sport, shall provide an 8 year limited warranty (sample attached).

2. As a manufacturer of a crumb rubber-derived infill material for use in athletic fields, CushionFall Sport shall provide in writing a copy of the ongoing Colorbiotics Quality Control program meeting all the standards of the International Organization of Standardization (ISO) 9001.

3. Shipment data and/or order certification documents for all crumb rubber used in the production of CushionFall Sport will include the following information:

    a. Type and origin of raw material
    b. Production method
    c. Max. temperature of CRI (ambient only) during production
    d. Fiber content
    e. CRI gradation analysis

4. If sand is used in combination with CushionFall Sport infill material, the sand material utilized shall be silt-free and rounded to sub-angular or polymer-coated.

DELIVERY REQUIREMENTS

1. CushionFall Sport will arrive at the job site packaged in one ton supersacks.
    a. All supersacks will meet the following specifications:
        - Rated 2,200 (minimum) working load
        - Rated 5:1 safety factor
        - Minimum loop length of 8”
        - UV treated with a 1,200 hour standard
        - Minimum fabric weight of 5.5 ounce
        - Side seams: at least 50% of the way down the bag
        - At point of shipment bag should be clean and free of debris
        - The supersack should be secure and stable on the pallet
        - Customers should be billed for net weight of rubber shipped
        - All supersacks should have traceability to date of production
        - CRI producers may use used supersacks if a customer specifies them.

2. If sand is required, the sand should be delivered to the site graded, washed, and dried.

INSTALLATION PROCEDURES:

Correct installation is critical to performance of this system and should also follow the synthetic turf manufacturer's recommendations for changes to the infill process relative to a unique or specific fiber system.

All CushionFall Sport infill material should be installed under dry field conditions for best results.

Method of Application:

1. The infill material should be installed uniformly. The equipment used for the application of the infill materials should erect the fiber, place the infill materials, and should incorporate a metering method to provide consistent distribution. The equipment utilized should not distort or displace any base materials or damage the system in any way.

2. The infill system should be specifically sized to meet the requirements defined by the synthetic turf manufacturer and installed to maximize density and minimize infill displacement.

3. The infill mixture shall be evenly spread utilizing large drop spreader or topdresser with a minimum working width of 5' in multiple applications. During installation, the fiber shall be brushed or dragged utilizing a motorized rotary broom and/or pull-type groomer brush between applications to insure that fibers are not trapped by the infill particles. A typical installation should require no less than three application cycles to achieve the desired infill depth.

4. Typical fill levels for a system involving fiber height of 2 – 2 1/2 inches are approximately 3.0 pounds per square foot with up to 30% of the system being comprised of sand. Additional sand volume within the infill system may require a modification to the amount of rubber installed and exact proportions should be denoted by the synthetic turf manufacturer. Installation process should allow a minimum of 1/2" of fiber exposed above the height of the infill. This level may also vary by synthetic turf manufacturer requirements and fiber characteristics.

TESTING AND REQUIRED DOCUMENTATION:

1. PRIOR TO INSTALLATION, the following documentation is required:

   Material Safety Data Sheets (MSDS) with all data required to meet federal Occupational Safety & Health Administration (OSHA) standards.

2. POST-INSTALLATION, the following testing should be completed with written copies of all test results provided to the Owner:

   Fill Levels:
   Infill levels should be tested upon completion of installation and should not vary more than +/- 9mm at any location on the athletic field playing surface.

   Shock Attenuation:
   Upon completion of the infill system installation, G-max testing should be performed by an independent testing company or third-party laboratory to ensure safe playing conditions.