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Alternative Infills for Synthetic Turf - Properties as Infill

Type of Alternative Infill	Material[1]	Color	Shape	Abrasiveness	UV Stability	Typical Turf Pile Height	Availability[4]	Resilient Shock Pad Recommended	Irrigation Recommended	Expected Life Span	Typical Mixture (By weight)	Approximate Cost[5]	Comments[1,2]
Crumb Rubber	Styrene butadiene Rubber (SBR) Recycled tire rubber shredded	Black	Angular shaped granules	Low	Stable	2.25" - 2.50"	Readily Available	No	No	Life of Carpet	50% Sand 50% Rubber	$50,000 per field	1. SBR Rubber and sand is the typical infill system used in the majority of synthetic turf fields installed since 1990's. 2. SBR rubber maintains its resiliency over a wide range of temperature and environmental conditions.
Silica Sand	Rounded Silica Sand	Tan/Brown	Rounded Particles	High	Stable	1.50" - 2.0"	Readily Available	Required (See Comments)	No	Life of Carpet	100% Silica Sand	+$0 net for additional sand +$130,000 for resilient pad	1. Shock pad is required to provide shock attenuation (G-max) 2. Sand stays hard under cold/frozen conditions (regardless of shock pad) 3. Use turf stitch gage of 5/8"or less. 4. Consider turf thatch layer for fly up prevention.
Organic	Cork or Coconut Husk or rice hulls	Natural appearance (tan/brown)	Angular shaped granules	Low	Low Stability	1.50" - 2.50"	Limited Availability	Yes (See Comments)	Yes[6]	Unknown[3] ability to decompose	10%-15% Organic 90% to 85% Sand	+$200,000	1.Reports of early degradation and floating of particles 2. Organics can stay hard under frozen conditions (regardless of shock pad) 3. Shock pad recommended to provide shock attenuation over warranty period 4. Consider increased maintenance
Coated Crumb Rubber	SBR (Styrene butadiene Rubber) Recycled tires shredded and coated with acrylic or EPDM	Custom colors available	Angular shaped granules	Low	Medium stability	2.25" - 2.50"	Readily Available	No	No	Life of Carpet	50% Sand 50% Coated Rubber	+$125,000	1. Still contains SBR Rubber 2. Manufacturers claim coating encapsulates outgassing of SBR rubber 3. Shock pad is not required, consider a combination of shock pad and other infill material to reduce quantity of needed material
EPDM (Ethylene Propylene Diene Monomer) Rubber	Virgin rubber produced for infill of athletic fields only	Custom colors available	Angular shaped Granules	Low	Medium stability	2.25"-2.50"	Limited Availability	(See Comments)	No	Not proven long term	50% Sand 50% EPDM	+ $350,000	1. Similar material to SBR rubber 2. Shock pad is not required, consider a combination of shock pad and other infill material to quantity of EPDM needed 3. EPDM is a generic term and quality can vary greatly. Proven source and propriety formulations are recommended.
TPE (Thermoplastic Elastomer)	Extruded plastic pellets	Custom colors available	Typically Uniform pellets Shape depends on manufacturer	Low to Medium	Stable	1.5" -2.50"	Limited Availability	Required	No	Not proven long term	50% TPE 50% Sand	+350,000	1. Turf thatch layer is suggested to help reduce fly up/displacement of material 2. Shock pad is not required, some owners have used combination of shock pad and TPE to reduce quantity of infill needed. 3. TPE is generic term - Quality can vary greatly. Proven source and propriety formulations are recommended
Coated Sand	Polymer Coated Silica Sand	Green	Fairly Round Particles	Med	Stable	1.50" - 1.75"	Readily Available	Required	No	16 Year Warrantee (See Comment)	100% Coated Silica Sand Particles	+275,000	1. Coating has been reported to last shorter than warrantee period (Flexsand) 2.Shock pad is required. Some manufacturers suggest a mix with TPE to obtain required resiliency (Gmax). 4. Turf stitch gage of 3/8" or less is recommended to prevent displacement. 5. Turf Thatch layers should be considered to reduce fly-up and displacement.
Nike Grind	Nike's Environmentally Preferred Rubber (Meets or exceeds restricted substance standards set for wearable consumer goods)	Multiple Colors	Angular shaped granules	Low	Stable	2.25" - 2.50"	Limited Availability	No	No	Per Nike, Expected life 10 years of play at 40 hours per week	50% Sand 50%Nike grind	+$130,000	1. Proprietary. 2. Reports that infill is not aesthetically pleasing. 3. Has occasionally been used as a supplement to SBR rubber or in lieu of SBR to provide 'renewable' label since 1990's

NOTES:

1. Information provided was compiled by available online data, manufacturers literature and conversations with turf and infill distributors. Gale has not conducted any independent testing of infill materials and does not guarantee the accuracy of information provided here in.
2. Installations of fields with alternative infill material (other than SBR Rubber and Sand) are somewhat limited and many have not been proven long term. Gale does not guarantee performance of any turf system.
3. Few older installations in U.S. More common in Europe. Only one supplier warranties for life of turf (geoturf) in U.S.
4. May become more or less available as demand and popularity fluxuates. Cost fluxuates with availability
5. Costs are generalized approximations. Costs are NET addition to cost of a typical sand/SBR turf infill system. Actual costs will vary based on depth of infill/turf depth, type of resilient pad used. Market costs can vary greatly due to materials demand and availability.
6. Organic Infill suppliers recommend keeping infill moist to aid with resiliency, improve longevity, prevent compaction and material displacement