

FLEXGROUND Synthetic Turf Jade Turf

Manufacturer's Specifications

This document provides the specifications for a Synthetic Grass Infill System composed of Envirofill infill placed into a tufted polyethylene fiber component installed over a porous aggregate stone base and glued to a rubber or concrete strip around the perimeter to secure edging.

There are variations in the final specifications as required by the Client.

PART 1 – GENERAL

1) Work Included

Provide all labor, materials, equipment, and tools necessary for the complete installation of a synthetic grass infill system as outlined in these specifications and a specially formulated coated, clean, dust free and specially sized silicon dioxide bead. The system should consist of but not necessarily be limited to the following:

- a. A vertical draining field base consisting of a four-inch layer of ABC Type II aggregate compacted to 95%.
- b. A complete synthetic grass system, consisting of a minimum 1.50 inch long proprietary polyethylene yarn formulation for superior wear resistance (10800 denier, 350 microns, micron bow form), and a secondary proprietary polyethylene yarn formulation (8100 denier, 150 microns, rectangular, rounded edge form). The system should be tufted with a minimum of 90 ounces of yarn per square yard and include a three component primary backing with a minimum of 20 ounces of urethane secondary backing per square yard. The finished product should also include perforations to ensure maximum drainage.
- c. An infill system, consisting of a specially formulated coated, clean, dust free and specially sized silicon dioxide bead.
- d. An edging system consisting of ½" thick by 6" wide rubber or concrete strip around the perimeter.
- e. Quality Assurance: Manufacturer should have manufactured and installed synthetic grass surfaces for a minimum of 3 years. The installation of the synthetic grass product should be completed by FLEXGROUND, LLC. Manufacturer's detailed installation procedures should be submitted to the Architect and made part of the Bid Specifications.

2) Submittals

Prospective manufacturers and/or installers of the turf should be required to comply with the following:

- a. The turf manufacturer must be experienced in the manufacture of a synthetic grass system and provide references of five (5) specific installations in the last three (3) years.
- b. The turf installer must provide competent workmen skilled in this specific type of synthetic grass installation. The designated supervisory personnel on the project must be competent in the installation of this material, including gluing seams and proper installation of the infill mixture.
- c. Manufacturer should provide written instructions for recommended maintenance practices.
- d. Manufacturer should submit color samples for customer verification.

PART 2 - SYNTHETIC GRASS MATERIALS

The synthetic turf material and resilient infill should be in accordance with the following:

- a. The primary fiber should be 10800 denier, 350 micron thickness, micron bow form with a secondary fiber (8100 denier, 150 microns, rectangular, rounded edge form). Longest fiber should measure 1.50 inches. The tufted fiber weight should not be less than 90 ounces per square yard and be a proprietary PE formulation for superior wear resistance

- b. The primary backing should consist of a three component polypropylene-based backing. The secondary backing should consist of an application of porous polyurethane (minimum of 20 ounces per square yard), heat activated to permanently lock fiber tufts in place. Products using latex based secondary backings will not be acceptable. The synthetic grass system should be perforated to provide for maximum drainage. Non-perforated systems should not be acceptable alternates for purposes of this specification.
- c. The turf should be delivered in 15' wide rolls.
- d. All lines, numbers and markings indicated on plans should be permanently inlaid. Painted lines should not be an acceptable alternative for purposes of this specification.
- e. The fiber should be green in color to simulate natural grass as closely as possible and treated with UV inhibitor, guaranteed a minimum of eight years.
- f. The infill system should be Envirofill and consist of color coated, clean, dust free and specially sized silicon dioxide bead.
- g. Standard of Quality should be FlexGround Jade Turf synthetic turf system as built by FlexGround, LLC

Contact:

FlexGround, LLC.
Bill Stafford
480-694-8320

PART 3 – SITE PREPARATION, BASE & GLUE DOWN STRIP

A vertical draining field base consisting of a four-inch layer of ABC Type II aggregate compacted to 95%.

- a. The sub-base will have a slope of 0.2%.
- b. The base aggregate should consist of a minimum of four inches (4") free-draining stone compacted to 95%. Finish slope of porous aggregate should be 0.2% from the centerline of the area to the perimeter, and the grade should not vary more than a half an inch ($\frac{1}{2}$ ") in ten feet (10').
- c. The sub base should be installed in two inch (2") lifts to appropriate thickness.
- d. The sub-base should be compacted using vibrating tamper, to approximately 95% Proctor density.
- e. The Synthetic Turf System Manufacturer and architect will accept the aggregate base in writing prior to the installation of the Synthetic Turf System.
- f. Sublevel grade is to be compacted prior to the ABC aggregate installation. Particular attention should be paid to areas of disturbed earth such as where footers for playground equipment enter the ground. Concrete should be poured to the top of sublevel surface.
- g. Glue down Strip: Glue down strip should be installed around the perimeter of the turf area.
- h. Glue down strip should be $\frac{1}{2}$ " thick by 6" wide and installed with a $\frac{1}{2}$ " relief to any connecting surfaces.
- i. Glue down strip should be made of recycled SBR rubber or concrete.
- j. Any alterations must be agreed between all parties.

PART 4 – EXECUTION AND INSTALLATION

The turf installer should strictly adhere to the installations procedures outlined under these sections. Any variance from these requirements should be accepted in writing by the manufacturer's onsite representative, and submitted to the architect/owner, verifying that the changes do not in any way affect the warranty.

- a. The synthetic grass should be cut and laid out across the area, and utilizing standard state-of-the-art gluing procedures each roll should be seamed to the next.

- b. The edge of the synthetic turf should be glued directly with full contact to the glue down strip around the perimeter of the area.
- c. This is a 100% glued installation. Sewing of seams or nailing of edges will not be permitted. A strip of seam tape should be used to seam the rolls of material. The specified glue should be a one part urethane adhesive (Seam Tight) as manufactured by FlexGround, LLC. Phoenix, AZ 85027.
- a. The infill material should be spread evenly with a large fertilizer type spreader. The infill will be spread in strict accordance with the turf installer's specifications. Between each application of infill, the field area should be brushed with a motorized rotary nylon broom. Minimum infill depth should be .50 inches. Caution: Too much fiber exposed (not enough infill) will cause the fibers to mat or crush with heavy foot traffic. This will lead to premature wearing of the fiber and will void any manufacturer's warranty.

PART 5 –MAINTENANCE AND WARRANTY

The bidder and/or the turf manufacturer must provide the following:

- a. The turf manufacturer should provide a warranty to the owner that covers defects in materials and workmanship of the turf for a period of eight years from the date of Substantial Completion. An eight (8) year "UV stabilization" warranty should be included in the warranty.
- b. The manufacturer's warranty should include general wear and damage caused from UV degradation. The warranty should specifically exclude vandalism, acts of War and acts of God beyond the control of the owner of the manufacturer.
- c. The bidder should provide a warranty to the owner that covers defects in the installation workmanship, and further warrant the installation was done in accordance with the manufacturer's recommendations.
- d. All turf warranties should be limited to repair or replacement of the affected areas and should include all necessary materials, labor, transportation costs, etc. to complete said repairs. All warranties are contingent on the full payment by the owner of all pertinent invoices.
- e. The bidder should provide a maintenance program to the owner. The warranty should be subject to compliance with said maintenance program.

FLEXGROUND Synthetic Turf Jade Light Turf

Manufacturer's Specifications

This document provides the specifications for a Synthetic Grass Infill System composed of Envirofill infill placed into a tufted polyethylene fiber component installed over a porous aggregate stone base and glued to a rubber or concrete strip around the perimeter to secure edging.

There are variations in the final specifications as required by the Client.

PART 1 – GENERAL

1) Work Included

Provide all labor, materials, equipment, and tools necessary for the complete installation of a synthetic grass infill system as outlined in these specifications and a specially formulated coated, clean, dust free and specially sized silicon dioxide bead. The system should consist of but not necessarily be limited to the following:

- a. A vertical draining field base consisting of a four-inch layer of ABC Type II aggregate compacted to 95%.
- b. A complete synthetic grass system, consisting of a minimum 1.50 inch long proprietary polyethylene yarn formulation for superior wear resistance (10800 denier, 350 microns, micron bow form), and a secondary proprietary polyethylene yarn formulation (8100 denier, 150 microns, rectangular, rounded edge form). The system should be tufted with a minimum of 50 ounces of yarn per square yard and include a three component primary backing with a minimum of 20 ounces of urethane secondary backing per square yard. The finished product should also include perforations to ensure maximum drainage.
- c. An infill system, consisting of a specially formulated coated, clean, dust free and specially sized silicon dioxide bead.
- d. An edging system consisting of ½" thick by 6" wide rubber or concrete strip around the perimeter.
- e. Quality Assurance: Manufacturer should have manufactured and installed synthetic grass surfaces for a minimum of 3 years. The installation of the synthetic grass product should be completed by FLEXGROUND, LLC. Manufacturer's detailed installation procedures should be submitted to the Architect and made part of the Bid Specifications.

2) Submittals

Prospective manufacturers and/or installers of the turf should be required to comply with the following:

- a. The turf manufacturer must be experienced in the manufacture of a synthetic grass system and provide references of five (5) specific installations in the last three (3) years.
- b. The turf installer must provide competent workmen skilled in this specific type of synthetic grass installation. The designated supervisory personnel on the project must be competent in the installation of this material, including gluing seams and proper installation of the infill mixture.
- c. Manufacturer should provide written instructions for recommended maintenance practices.
- d. Manufacturer should submit color samples for customer verification.

PART 2 - SYNTHETIC GRASS MATERIALS

The synthetic turf material and resilient infill should be in accordance with the following:

- a. The primary fiber should be 10800 denier, 350 micron thickness, micron bow form with a secondary fiber (8100 denier, 150 microns, rectangular, rounded edge form). Longest fiber should measure 1.50 inches. The tufted fiber weight should not be less than 50 ounces per square yard and be a proprietary PE formulation for superior wear resistance

- b. The primary backing should consist of a three component polypropylene-based backing. The secondary backing should consist of an application of porous polyurethane (minimum of 20 ounces per square yard), heat activated to permanently lock fiber tufts in place. Products using latex based secondary backings will not be acceptable. The synthetic grass system should be perforated to provide for maximum drainage. Non-perforated systems should not be acceptable alternates for purposes of this specification.
- c. The turf should be delivered in 15' wide rolls.
- d. All lines, numbers and markings indicated on plans should be permanently inlaid. Painted lines should not be an acceptable alternative for purposes of this specification.
- e. The fiber should be green in color to simulate natural grass as closely as possible and treated with UV inhibitor, guaranteed a minimum of eight years.
- f. The infill system should be Envirofill and consist of color coated, clean, dust free and specially sized silicon dioxide bead.
- g. Standard of Quality should be FlexGround Jade Light Turf synthetic turf system as built by FlexGround, LLC

Contact:

FlexGround, LLC.
Bill Stafford
480-694-8320

PART 3 – SITE PREPARATION, BASE & GLUE DOWN STRIP

A vertical draining field base consisting of a four-inch layer of ABC Type II aggregate compacted to 95%.

- a. The sub-base will have a slope of 0.2%.
- b. The base aggregate should consist of a minimum of four inches (4") free-draining stone compacted to 95%. Finish slope of porous aggregate should be 0.2% from the centerline of the area to the perimeter, and the grade should not vary more than a half an inch ($\frac{1}{2}$ ") in ten feet (10').
- c. The sub base should be installed in two inch (2") lifts to appropriate thickness.
- d. The sub-base should be compacted using vibrating tamper, to approximately 95% Proctor density.
- e. The Synthetic Turf System Manufacturer and architect will accept the aggregate base in writing prior to the installation of the Synthetic Turf System.
- f. Sublevel grade is to be compacted prior to the ABC aggregate installation. Particular attention should be paid to areas of disturbed earth such as where footers for playground equipment enter the ground. Concrete should be poured to the top of sublevel surface.
- g. Glue down Strip: Glue down strip should be installed around the perimeter of the turf area.
- h. Glue down strip should be $\frac{1}{2}$ " thick by 6" wide and installed with a $\frac{1}{2}$ " relief to any connecting surfaces.
- i. Glue down strip should be made of recycled SBR rubber or concrete.
- j. Any alterations must be agreed between all parties.

PART 4 – EXECUTION AND INSTALLATION

The turf installer should strictly adhere to the installations procedures outlined under these sections. Any variance from these requirements should be accepted in writing by the manufacturer's onsite representative, and submitted to the architect/owner, verifying that the changes do not in any way affect the warranty.

- a. The synthetic grass should be cut and laid out across the area, and utilizing standard state-of-the-art gluing procedures each roll should be seamed to the next.

- b. The edge of the synthetic turf should be glued directly with full contact to the glue down strip around the perimeter of the area.
- c. This is a 100% glued installation. Sewing of seams or nailing of edges will not be permitted. A strip of seam tape should be used to seam the rolls of material. The specified glue should be a one part urethane adhesive (Seam Tight) as manufactured by FlexGround, LLC. Phoenix, AZ 85027.
- a. The infill material should be spread evenly with a large fertilizer type spreader. The infill will be spread in strict accordance with the turf installer's specifications. Between each application of infill, the field area should be brushed with a motorized rotary nylon broom. Minimum infill depth should be .50 inches. Caution: Too much fiber exposed (not enough infill) will cause the fibers to mat or crush with heavy foot traffic. This will lead to premature wearing of the fiber and will void any manufacturer's warranty.

PART 5 –MAINTENANCE AND WARRANTY

The bidder and/or the turf manufacturer must provide the following:

- a. The turf manufacturer should provide a warranty to the owner that covers defects in materials and workmanship of the turf for a period of eight years from the date of Substantial Completion. An eight (8) year "UV stabilization" warranty should be included in the warranty.
- b. The manufacturer's warranty should include general wear and damage caused from UV degradation. The warranty should specifically exclude vandalism, acts of War and acts of God beyond the control of the owner of the manufacturer.
- c. The bidder should provide a warranty to the owner that covers defects in the installation workmanship, and further warrant the installation was done in accordance with the manufacturer's recommendations.
- d. All turf warranties should be limited to repair or replacement of the affected areas and should include all necessary materials, labor, transportation costs, etc. to complete said repairs. All warranties are contingent on the full payment by the owner of all pertinent invoices.
- e. The bidder should provide a maintenance program to the owner. The warranty should be subject to compliance with said maintenance program.

FLEXGROUND Synthetic Turf Sport Turf

Manufacturer's Specifications

This document provides the specifications for a Synthetic Grass Infill System composed of Envirofill infill placed into a tufted polyethylene fiber component installed over a porous aggregate stone base and glued to a rubber or concrete strip around the perimeter to secure edging.

There are variations in the final specifications as required by the Client.

PART 1 – GENERAL

1) Work Included

Provide all labor, materials, equipment, and tools necessary for the complete installation of a synthetic grass infill system as outlined in these specifications and a specially formulated coated, clean, dust free and specially sized silicon dioxide bead. The system should consist of but not necessarily be limited to the following:

- a. A vertical draining field base consisting of a four-inch layer of ABC Type II aggregate compacted to 95%.
- b. A complete synthetic grass system, consisting of a minimum 1 $\frac{1}{8}$ inch long proprietary polyethylene yarn formulation for superior wear resistance (10800 denier, 350 microns, micron bow form), and a secondary proprietary polyethylene yarn formulation (8100 denier, 150 microns, rectangular, rounded edge form). The system should be tufted with a minimum of 75 ounces of yarn per square yard and include a three component primary backing with a minimum of 20 ounces of urethane secondary backing per square yard. The finished product should also include perforations to ensure maximum drainage.
- c. An infill system, consisting of a specially formulated coated, clean, dust free and specially sized silicon dioxide bead.
- d. An edging system consisting of $\frac{1}{2}$ " thick by 6" wide rubber or concrete strip around the perimeter.
- e. Quality Assurance: Manufacturer should have manufactured and installed synthetic grass surfaces for a minimum of 3 years. The installation of the synthetic grass product should be completed by FLEXGROUND, LLC. Manufacturer's detailed installation procedures should be submitted to the Architect and made part of the Bid Specifications.

2) Submittals

Prospective manufacturers and/or installers of the turf should be required to comply with the following:

- a. The turf manufacturer must be experienced in the manufacture of a synthetic grass system and provide references of five (5) specific installations in the last three (3) years.
- b. The turf installer must provide competent workmen skilled in this specific type of synthetic grass installation. The designated supervisory personnel on the project must be competent in the installation of this material, including gluing seams and proper installation of the infill mixture.
- c. Manufacturer should provide written instructions for recommended maintenance practices.
- d. Manufacturer should submit color samples for customer verification.

PART 2 - SYNTHETIC GRASS MATERIALS

The synthetic turf material and resilient infill should be in accordance with the following:

- a. The primary fiber should be 10800 denier, 350 micron thickness, micron bow form with a secondary fiber (8100 denier, 150 microns, rectangular, rounded edge form). Longest fiber should measure 1 $\frac{1}{8}$ inches. The tufted fiber weight should not be less than 75 ounces per square yard and be a proprietary PE formulation for superior wear resistance

- b. The primary backing should consist of a three component polypropylene-based backing. The secondary backing should consist of an application of porous polyurethane (minimum of 20 ounces per square yard), heat activated to permanently lock fiber tufts in place. Products using latex based secondary backings will not be acceptable. The synthetic grass system should be perforated to provide for maximum drainage. Non-perforated systems should not be acceptable alternates for purposes of this specification.
- c. The turf should be delivered in 15' wide rolls.
- d. All lines, numbers and markings indicated on plans should be permanently inlaid. Painted lines should not be an acceptable alternative for purposes of this specification.
- e. The fiber should be green in color to simulate natural grass as closely as possible and treated with UV inhibitor, guaranteed a minimum of eight years.
- f. The infill system should be Envirofill and consist of color coated, clean, dust free and specially sized silicon dioxide bead.
- g. Standard of Quality should be FlexGround Sport Turf synthetic turf system as built by FlexGround, LLC

Contact:

FlexGround, LLC.
 Bill Stafford
 480-694-8320

PART 3 – SITE PREPARATION, BASE & GLUE DOWN STRIP

A vertical draining field base consisting of a four-inch layer of ABC Type II aggregate compacted to 95%.

- a. The sub-base will have a slope of 0.2%.
- b. The base aggregate should consist of a minimum of four inches (4") free-draining stone compacted to 95%. Finish slope of porous aggregate should be 0.2% from the centerline of the area to the perimeter, and the grade should not vary more than a half an inch (½") in ten feet (10').
- c. The sub base should be installed in two inch (2") lifts to appropriate thickness.
- d. The sub-base should be compacted using vibrating tamper, to approximately 95% Proctor density.
- e. The Synthetic Turf System Manufacturer and architect will accept the aggregate base in writing prior to the installation of the Synthetic Turf System.
- f. Sublevel grade is to be compacted prior to the ABC aggregate installation. Particular attention should be paid to areas of disturbed earth such as where footers for playground equipment enter the ground. Concrete should be poured to the top of sublevel surface.
- g. Glue down Strip: Glue down strip should be installed around the perimeter of the turf area.
- h. Glue down strip should be ½" thick by 6" wide and installed with a ½" relief to any connecting surfaces.
- i. Glue down strip should be made of recycled SBR rubber or concrete.
- j. Any alterations must be agreed between all parties.

PART 4 – EXECUTION AND INSTALLATION

The turf installer should strictly adhere to the installations procedures outlined under these sections. Any variance from these requirements should be accepted in writing by the manufacturer's onsite representative, and submitted to the architect/owner, verifying that the changes do not in any way affect the warranty.

- a. The synthetic grass should be cut and laid out across the area, and utilizing standard state-of-the-art gluing procedures each roll should be seamed to the next.

- b. The edge of the synthetic turf should be glued directly with full contact to the glue down strip around the perimeter of the area.
- c. This is a 100% glued installation. Sewing of seams or nailing of edges will not be permitted. A strip of seam tape should be used to seam the rolls of material. The specified glue should be a one part urethane adhesive (Seam Tight) as manufactured by FlexGround, LLC. Phoenix, AZ 85027.
- a. The infill material should be spread evenly with a large fertilizer type spreader. The infill will be spread in strict accordance with the turf installer's specifications. Between each application of infill, the field area should be brushed with a motorized rotary nylon broom. Minimum infill depth should be .50 inches. Caution: Too much fiber exposed (not enough infill) will cause the fibers to mat or crush with heavy foot traffic. This will lead to premature wearing of the fiber and will void any manufacturer's warranty.

PART 5 –MAINTENANCE AND WARRANTY

The bidder and/or the turf manufacturer must provide the following:

- a. The turf manufacturer should provide a warranty to the owner that covers defects in materials and workmanship of the turf for a period of eight years from the date of Substantial Completion. An eight (8) year "UV stabilization" warranty should be included in the warranty.
- b. The manufacturer's warranty should include general wear and damage caused from UV degradation. The warranty should specifically exclude vandalism, acts of War and acts of God beyond the control of the owner of the manufacturer.
- c. The bidder should provide a warranty to the owner that covers defects in the installation workmanship, and further warrant the installation was done in accordance with the manufacturer's recommendations.
- d. All turf warranties should be limited to repair or replacement of the affected areas and should include all necessary materials, labor, transportation costs, etc. to complete said repairs. All warranties are contingent on the full payment by the owner of all pertinent invoices.
- e. The bidder should provide a maintenance program to the owner. The warranty should be subject to compliance with said maintenance program.