AST Synthetic Turf Guide Specification

Section 32 18 13 Synthetic Grass Surfacing

Specifier instructions: This three-part master covers AST landscape, pet and putting-green installations, with an optional playground protective-surfacing module. Complete all bracketed selections, retain only applicable requirements and coordinate with the drawings and Division 01 before issuing project documents. Blue bracketed text is editable selection text.

For a stand-alone playground section, coordinate Section 32 18 16.13 Playground Protective Surfacing. Competitive athletic fields and roof assemblies require separate project-specific specifications. Reference resources following END OF SECTION are for the specifier and are to be removed from the issued section.

Project [Project name] Location [City and state] Issue date [Date]

PART 1 GENERAL

1.1 SUMMARY

A. Provide synthetic turf surfacing in the areas shown on the drawings, including scheduled turf, infill, cushion or drainage layers, seams, perimeter attachment and transitions needed for a complete assembly.

B. Applications included: [landscape and pedestrian areas] [pet exercise and relief areas] [putting greens and fringe] [protective surfacing within playground use zones]. Delete unselected applications.

C. Subgrade, aggregate base, edge restraints and subsurface drainage are [included in this Section] [provided under the related sitework sections]. Identify responsibilities on the drawings and coordinate elevations and connections before work begins.

1.2 COORDINATION

A. Coordinate with Division 01 requirements for submittals, substitutions, quality control, project closeout and warranties.

B. Coordinate with earthwork, drainage, paving, concrete, irrigation, utilities, planting and playground-equipment work. Protect foundations, root zones and existing improvements designated to remain.

C. The drawings shall identify finished grades, turf limits, layer thicknesses, drainage outlets, accessible transitions and details at curbs, posts, drains and other penetrations.

1.3 REFERENCES

A. Use the editions identified in the project documents and those required by the applicable authority. Resolve differences between contract editions and code-adopted editions before procurement. Retain only standards used by the selected requirements.

Reference	Use in this section
ASTM D5823	Tuft height measurement.
ASTM D5848	Mass per unit area of the turf components and finished carpet, as applicable.
ASTM D1335	Tuft bind testing when specified.
ASTM D5034	Fabric grab breaking strength and elongation when specified.
ASTM F1551	Selected turf characterization methods; identify the particular method and result required.
ASTM F1292	Laboratory impact attenuation and critical height for the optional playground system.
ASTM F1951	Accessibility performance for playground surfacing when required.
ASTM F3313	Field impact testing of installed playground surfacing.

Specifier: Insert edition designations and applicable local requirements. For fire performance, environmental testing or other special criteria, add the applicable method and acceptance limit to Article 2.3; a generic test designation alone is not a performance requirement.

1.4 SUBMITTALS

A. Product data: Submit the exact AST product name and SKU, dated technical data, intended use, construction, pile height, yarn and backing descriptions, nominal weights, color, roll dimensions and published tolerances. Include data for infill, pad, drainage composite, seam materials and attachment components.

B. Layout and details: Show field-verified quantities, roll and seam locations, pile direction, colors or inlays, changes in level, drainage connections and perimeter and penetration details. Identify locations requiring access to buried equipment.

C. Samples: Submit [two] turf samples, each at least [12 by 12 inches], representing the scheduled colors and construction, with labeled samples of the proposed infill and cushion when used. Provide a sample seam when requested.

D. Performance evidence: Submit reports identifying the tested product or assembly, laboratory, date, method, specimen construction, measured results and acceptance criteria. Distinguish component data from complete-system performance. Report variations from the scheduled assembly.

E. Installation information: Submit written AST recommendations for the selected turf and backing, accessory instructions, installer qualifications and anticipated installation conditions. For playgrounds, submit a field testing plan identifying the responsible party, independent agency and its qualifications, test heights, locations, criteria and timing. Obtain acceptance of the plan before testing.

F. Closeout information: Submit the applicable AST warranty, separate installer workmanship warranty, maintenance instructions, repair procedures and final record of installed products, batch numbers and infill quantities.

1.5 QUALITY ASSURANCE

A. Use an installer experienced with the specified type of turf assembly. Submit comparable completed work and personnel qualifications. Provide written manufacturer authorization where required for the selected system or warranty.

B. Use components documented as compatible with the scheduled AST turf and intended application. Do not change the backing, infill, cushion, adhesive or attachment system without review of the effect on performance and warranty.

C. Mockup: [Provide a representative mockup at the location and size shown] [Not required]. Include a seam, perimeter attachment and adjoining surface transition. Retain an accepted mockup as the workmanship standard; incorporation into the work requires approval.

D. Hold a preinstallation review with the installer and responsible sitework trades. Confirm substrate acceptance, drainage, access, seams, weather limits, inspection points and protection of completed work.

1.6 DELIVERY AND SITE CONDITIONS

A. Deliver labeled rolls and packaged accessories with product and batch identification. Keep materials dry, supported and protected from contamination, distortion, excessive heat and damage. Store adhesives within their temperature and shelf-life limits.

B. Install only within the manufacturers' stated temperature, moisture and curing limits. Do not bond to wet, frozen, unstable or contaminated substrates. Protect adjacent surfaces during cutting, seaming and infill placement.

1.7 WARRANTY

A. Provide AST's written limited material warranty applicable to the selected product, application, project location and purchase date. Required term: [insert confirmed term]. Identify commencement,

coverage, exclusions, claim procedure and whether removal, labor, infill and replacement installation are included. Do not substitute a general marketing statement for the issued warranty.

B. Provide a separate installer workmanship warranty for [insert term] from [specified commencement]. Identify coverage for seam bonding, attachment and installation defects, and the party responsible for correction. Coordinate these obligations with Division 01.

PART 2 PRODUCTS

2.1 MANUFACTURER AND BASIS OF DESIGN

A. Basis-of-design manufacturer: American Syn-Turf, Inc.; telephone (800) 617-1453; website www.americansynturf.com. Obtain current product and system documentation through AST's Architect and Design Library and technical representative.

B. Select the product for each area in Article 2.2. Substitutions: [not permitted] [considered under Division 01]. For a proposed substitution, submit a comparison of the complete assembly, including performance, maintenance, drainage and warranty; matching face weight alone does not establish equivalence.

Specifier product selection aid: AST landscape candidates include AST Fresh Cut, AST Cascade, AST Modern Cut and AST Epic MAX. Pet areas may use AST AmeriPet. Putting greens may use AST Shot Maker II. These are examples, not interchangeable products. For playgrounds, select a documented turf, pad and infill assembly; a turf catalog listing alone does not establish a protective-surfacing rating. Confirm availability; delete this note before issue.

2.2 SCHEDULED TURF ASSEMBLY

A. Provide the following assembly for each designated area. Duplicate this schedule where different products or uses occur. Published nominal values and tolerances shall be identified in the approved product data; do not mix values from different products or revisions.

Property	Project selection
Area and intended use	[Area designation and application]
AST turf and data revision	[Product name, SKU and technical-sheet revision/date]
Pile height	[Value] inches, nominal; ASTM D5823
Face weight	[Value] oz/yd², nominal; ASTM D5848
Yarn and color	[Fiber composition, blade construction, colors and thatch, if present]
Primary backing	[Material and construction]
Secondary backing	[Coating or backing construction]
Total product weight	[Value] oz/yd², nominal; ASTM D5848
Gauge and stitch rate	[Gauge] and [stitch rate with stated units], if specified
Roll dimensions	[Approved width and lengths] coordinated with the seam plan
Infill	[Manufacturer/product, material, gradation, rate in lb/ft² and installed depth] [None only where approved for the selected assembly]
Cushion or shock pad	[Manufacturer/product, thickness and connection method] [Not required]
Drainage layer	[Manufacturer/product and thickness] [Not required]
Base and attachment	[Drawing/detail references for base, seams, edges and transitions]
Playground option	[Required fall height and tested assembly reference] [Not applicable]

B. Turf shall be new, suitable for the designated use and exterior exposure where applicable, and consistent with the accepted samples. Within a visually continuous area, provide compatible production lots and pile direction to limit unintended shade variation.

2.3 PROJECT PERFORMANCE REQUIREMENTS

Specifier: Complete or delete each optional requirement below. Confirm that the chosen AST assembly can satisfy the stated criterion and test method before issuing the specification.

A. Drainage: Provide a turf, infill, pad, base and outlet arrangement coordinated with the site drainage design. Required verification and acceptance criteria: [method, locations, flow or rainfall condition, allowable ponding and drainage time]. A carpet permeability result shall not be used as the capacity of the complete installed assembly.

B. Mechanical properties, where specified: Tuft bind [minimum value and units] by ASTM D1335; grab breaking strength [minimum values and directions] by ASTM D5034. State the test conditions and specimen construction. Delete requirements that are not part of the selected product criteria.

C. Chemical or environmental criteria, where specified: [Applicable requirement, material, analytes, test method and acceptance limits]. Submit product-specific evidence with reporting limits and tested component identification. Apply any no-intentionally-added requirement to the defined components and obtain a corresponding manufacturer declaration. Do not treat a soil test method or a non-detect result as proof of absence of every PFAS.

D. Other project requirements: [Fire-performance method and classification] [Emissions criteria] [Documented recycled-content requirement] [Other]. Require evidence applicable to the actual installation; do not infer a fire classification, health claim or green-building credit from an unrelated product or assembly.

2.4 ACCESSORY MATERIALS

A. Seams: Provide tape, adhesive or other connection materials recommended in writing for the selected backing, substrate and exposure. Supply the required bond width and application rate. Adhesives shall be within shelf life and compatible with infill, pad and drainage components.

B. Infill: Supply the scheduled clean, dry, graded material with product data and safety data. Confirm suitability for the turf, user activity and any protective-surfacing report. Do not change material, gradation, loading or depth without approval.

C. Cushion and drainage layers: Provide scheduled components, joints and attachment details. Cushion thickness alone is not evidence of an impact rating. Maintain a continuous drainage path through layer transitions and at outlets.

D. Edging and attachment: Provide the specified restraints and corrosion-resistant fasteners or bonding system compatible with the support. Detail attachment to resist service loads without exposed sharp edges, protruding fasteners or obstructed drainage.

E. Geotextiles and aggregate: Provide the grading, separation, filtration, thickness and compaction specified by the site design. Use a fabric only where indicated and compatible with the required drainage and pet-waste management strategy.

2.5 APPLICATION SPECIFIC REQUIREMENTS

A. Pet areas: Provide the approved pet-use turf, infill and drainage arrangement. Coordinate hose access, cleaning procedures and permitted wash-water disposal with the project design. Identify cleaning agents compatible with the turf and accessories; do not represent odor-control infill as a substitute for cleaning.

B. Putting greens: Provide the scheduled putting surface, fringe, cups and flags. Contours and cup locations shall follow the approved layout. Required ball-roll performance, test procedure and acceptance conditions: [insert] [visual and functional acceptance only]. Do not derive a guaranteed green speed from pile height or face weight alone.

C. Playground protective surfacing, when selected: Provide the exact tested assembly, including turf, pad, infill and supporting construction. The specified installation shall reproduce the assembly conditions identified in the accepted test documentation.
   1. Required equipment fall height: [value] feet. Submit ASTM F1292 laboratory evidence for an assembly with a critical height at least equal to the required fall height. Meet the applicable standard's impact acceptance criteria, including G-max not greater than 200 and HIC not greater than 1,000, at the required test height.
   2. Where accessibility is required, submit ASTM F1951 evidence for the proposed surface configuration and coordinate the installed routes, slopes, level changes, openings and clearances with the accessible-site design. Test data for a material does not establish accessibility of the entire installation.
   3. IPEMA certification: [Required for the selected assembly] [Not specified]. If required, submit current product-specific certification identifying the applicable configuration and standard. Manufacturer membership or an unrelated certificate is not sufficient.
   4. Provide installed impact testing under Article 3.4. Keep protective surfacing continuous throughout the designated use zones, with edge and penetration details compatible with the tested system. Do not introduce unapproved exposed rigid attachments within use zones.

PART 3 EXECUTION

3.1 EXAMINATION

A. Before installation, inspect the prepared area with the responsible contractor. Verify dimensions, elevations, layer allowances, firmness, drainage outlets, edge supports, access and locations of utilities and penetrations.

B. Record unsatisfactory conditions and obtain correction before covering them. Do not conceal soft spots, ponding, loose aggregate, contamination or unresolved conflicts between the approved details and site conditions.

3.2 PREPARATION

A. Remove materials designated for removal and protect work to remain. Prepare the subgrade and base to the engineered profiles, drainage paths and compaction requirements. Repair unstable areas rather than covering them with turf or additional infill.

B. Base thickness, aggregate gradation and compaction shall be [as shown and specified in the sitework documents] [insert requirements, including compaction test method]. Verify these items before installing pad or turf. Surface tolerance: [maximum deviation] under a [straightedge length], measured away from intentional contours.

C. For an approved hard-surface installation, clean and prepare the substrate to the adhesive manufacturer's requirements. Resolve moisture, cracks, joints and drainage before bonding; maintain movement joints as detailed.

D. Install drains, restraints and concealed components before covering the work. Maintain required finish elevations at adjacent paving and accessible transitions. Obtain acceptance of the base condition before proceeding.

3.3 INSTALLATION

A. Follow the accepted system details and written instructions for the selected AST product and backing. Resolve conflicts with the project designer and AST before changing the assembly.

B. Place cushion, drainage layers and geotextiles in the specified sequence. Close and secure joints as required without ridges, gaps or blocked drainage. Offset joints from turf seams where required by the system instructions.

C. Unroll and condition turf as instructed. Verify product, lot, color and pile direction before cutting. Set out the accepted seam layout; do not use narrow filler strips or change seam locations without approval.

D. Trim from the backing side and fit edges without cutting excessive yarn. Produce smooth, closely fitted joints without overlap, visible gaps, ridges or trapped fibers. Bond or connect seams using the approved materials, application rates and curing procedure; protect them from movement and contamination during cure.
E. Secure edges, openings and penetrations to the approved detail. Keep hardware concealed and secure, and maintain drainage and access to service points. Finish adjoining surfaces without abrupt unsupported edges or avoidable trip conditions.
F. Apply infill only after seams and attachment have cured sufficiently. Place the scheduled quantity in controlled passes and groom between passes as directed. Achieve uniform distribution and depth without burying fibers beyond the approved system requirements. Record installed quantities by area.
G. Complete putting-green contours, cups and fringe, or playground assembly details, as applicable. Brush and finish the turf with equipment suitable for the selected yarn and backing.

3.4 FIELD QUALITY CONTROL

A. Inspect completed work for correct materials, color and pile direction; secure seams and edges; uniform infill; acceptable contours; clean transitions; and unobstructed drains. Correct defects before acceptance.
B. Verify drainage by the procedure and criteria in Article 2.3. Document locations, conditions and results. Correct identified drainage defects and repeat the affected verification.
C. Playground option: [Contractor] [Owner's testing agency] shall arrange field impact testing under the accepted plan. Use an independent agency acceptable to the Owner with demonstrated competence in ASTM F3313. Test at the required heights and locations; record assembly identification, infill depth, weather and results. Meet the specified impact limits and applicable standard acceptance rules before opening the area.
D. Where accessible routes are required, verify installed slopes, level changes, openings, clearances and transitions against the approved accessible-site design. Correct nonconforming conditions before opening the area for use.
E. Replace or correct nonconforming work and repeat affected tests. Obtain written acceptance of the completed installation. Product submittal approval does not waive the installation acceptance requirements.

3.5 CLEANING AND PROTECTION

A. Remove adhesive residue, excess infill, packaging, offcuts and construction debris using methods that do not damage the turf or adjacent work. Recheck seams, edges and drains after final grooming.
B. Protect the area from traffic and other trades until attachment and adhesives have cured and inspections are complete. Repair damage caused before turnover. Keep playground areas closed until required testing and acceptance are complete.

3.6 CLOSEOUT AND MAINTENANCE

A. Deliver record layouts, product and batch identification, test reports, warranties, care instructions and [specified spare turf, infill and repair materials]. Identify spare materials by product and color, and package them for protected storage.
B. Demonstrate grooming, infill checks, seam and edge inspection, drain clearing, stain removal and approved cleaning. For pet areas include waste removal and rinsing; for putting greens include cup and surface care; for playgrounds include the required inspection and retesting program.
C. Provide maintenance frequency and service contacts appropriate to traffic and exposure. Explain restrictions on heat sources, incompatible chemicals, heavy equipment and other uses identified in the applicable product instructions and warranty.

END OF SECTION

Specifier Reference Resources

This page is not part of the contract specification. Remove it when issuing the edited project section. Use these resources to complete selections and obtain the current product-specific documents.

AST Architect and Design Library

Obtain the dated technical sheet, applicable reports and installation information for the selected SKU. Confirm differences between web listings and downloaded documents with AST.

AST Product Categories

Select the appropriate product family and confirm current availability. Product names in the guide are selection examples; no universal pile height, face weight, infill loading or performance rating is assigned.

AST Installation and Maintenance

Request the instructions for the selected backing and application, including any pet-use or putting-green requirements. Coordinate generic installation guidance with the engineered site design.

AST Written Warranties

Obtain the actual warranty applicable to the product, use, location and purchase date, including its effective date and exclusions. Confirm material coverage separately from installer workmanship obligations.

ASTM Standards

Confirm the scope and edition of each specified test method. F1292 addresses laboratory playground impact performance; F3313 addresses installed field impact testing. Use the applicable acceptance rules and identify the tested assembly.

CPSC Public Playground Safety Guidance

Coordinate the required fall height, use-zone layout, surfacing and ongoing inspection requirements with the equipment and site design.

US Access Board Play Surface Guidance

Coordinate accessible surface performance with route geometry and maintenance. Reconcile the editions incorporated by applicable accessibility requirements with the project testing specifications.

IPEMA Certification Program

When certification is specified, obtain the current certificate for the actual product or assembly. Confirm the applicable standard and any certification transition requirements.

Before issue, complete the product schedule, test criteria, base design, drainage criteria, attachment details, playground selections, warranty terms and responsibility assignments. Delete unused options and all specifier notes.