

SECTION 06 05 00

COMMON WORK RESULTS FOR WOOD, PLASTICS AND COMPOSITES

This section specifies King StarBoard® ST manufactured by King Plastic Corporation.

- King StarBoard® ST is a high-density polymer (HDPE) material
- Available in 10 standard colors: Black, Mocha Brown, Nutmeg, Indigo, Charcoal Gray, Slate Gray, Dolphin Gray, Sansshade, Seafoam and White/White
- Standard size is 48" X 96
- Standard thickness ranges from ¼" to 1-1/2" thick
- Custom sheet sizes, gauges and colors available upon request with minimum order quantities
- Made from FDA approved polymer

King StarBoard® ST is one of our most scratch-resistant polymer sheets making it an excellent construction material for cabinetry, case goods and architectural partitions. King StarBoard® ST is environmentally stabilized and has been developed to withstand the harshest outdoor conditions. It will not discolor, rot, or delaminate when exposed to humidity or water. It can be fabricated using common woodworking tools and techniques.

King StarBoard® ST XL is available in a lighter version as a custom product. King StarBoard® ST XL sheets are up to 30% lighter in weight than King StarBoard® ST and are made with the same matte gloss textured surface and colors for a perfect match.

For advanced antimicrobial technology, see King MediGrade®, the antimicrobial polymer building sheet for healthcare applications.

King StarBoard® ST is upgradable with King FlameShield, for ASTM E-84 Class A Flame Compliance and CAN/ULC-S102 for Canadian Compliance.

Part 1 - GENERAL

EDITING NOTE: Revise listing to suit project requirements.

1.1 SECTION INCLUDES

- A. Basic Wood and Plastic Materials and Methods
- B. Plastic Fabrication

1.2 RELATED SECTIONS

Editing Note: Section listings below are common references and based on the broadly accepted CSI MasterFormat® for Section Numbers and Titles. Revise to suit requirements for particular project.

- A. Section 06 20 00 – Finish Carpentry
- B. Section 06 41 00 – Architectural Wood Casework and Custom Cabinets
- C. Section 10 21 00 – Compartments and Cubicles
- D. Section 10 21 13 – Lavatory Compartments
- E. Section 10 51 00 – Lockers
- F. Section 12 35 00 – Specialty Casework
- G. Section 12 35 30.13 – Kitchen Casework
- H. Section 12 35 53 - Laboratory Casework
- I. Section 12 35 59 – Display Casework
- J. Section 12 35 70.13 Hospital Casework
- K. Section 12 35 70.16 – Nurse Station Casework
- L. Section 12 35 70.74 Dental Casework

1.3 REFERENCES

Specifier Note: Revise Reference Standards to suit project requirements.

- A. ASTM D638 – Standard Test Method for Tensile Properties of Plastics.
- B. ASTM D648 – Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.



- C. ASTM D746 – Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.
- D. ASTM D747 – Standard Test Method for Apparent Bending Modulus of Plastics by Means of a Cantilever Beam.
- E. ASTM D790 – Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- F. ASTM D1505 – Standard Test Method for Density of Plastics by the Density-Gradient Technique.
- G. ASTM D1525 – Standard Test Method for Vicat Softening Temperature of Plastics.
- H. ASTM D1822 – Standard Test Method for Tensile-Impact Energy to Break Plastics and Electrical Insulating Materials.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Submit product data for each specified product. Include manufacturer's technical data sheets and published:
 - a. Literature indicating common uses of the product.
 - b. Fabricating techniques and recommendations.
 - c. Storage and handling requirements and recommendations.
 - d. Maintenance and cleaning practices.
 - e. Safety Data Sheets (SDS).
- C. **Shop Drawings:**
 - a. Standard thickness ranges from 1/4" to 1-1/2" thick.
 - b. Standard size is 48" X 96"
 - c. Custom sheet sizes, gauges and colors available upon request with minimum order quantities.



D. Samples:

- a. Submit manufacturer's selection and verification samples for each product, color, pattern and finish required.

E. Verification Samples:

- a. Selection samples are made from actual product and will represent actual product, color, pattern and finish.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: King Plastic Corp. has an ISO 9001 compliant quality system and has been developing and manufacturing quality polymer sheets, slabs and massive shapes since 1968.
- B. Raw Material Suppliers Qualifications: King Plastic Corp. purchases all prime virgin resins from qualified suppliers using no non-prime or off spec materials.

Furniture created with King StarBoard® ST may earn LEED rating points.
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- C. LEED for Existing Buildings, September 2008
 - 1 point: MR Credit 2.2 Sustainable Purchasing: Durable Goods
- D. LEED for New Construction, version 2.2
 - 2 points: MR credit 4.2 Recycled Content
- E. LEED for Commercial Interiors, version 2.0
 - 2 points: MR credit 4.2 Recycled Content
 - 1 point: EQ credit 4.5, Low-Emitting materials
- F. LEED for Homes, January 2008
 - .5 point: MR credit 2.2 Environmentally Preferable Products
- G. LEED for Schools, First Edition, November 2007
 - 2 points: MR Credit 4.2 Recycled Content
- H. Green Guide for Health Care, version 2.2
 - 1 point: MR Credit 5.2 Furniture & Medical Furnishings: Materials
 - 1 point: MR Credit 5.3 Furniture & Medical Furnishings: Manufacturing, Transportation and Recycling

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store products in manufacturer's unopened packaging in area where the temperature does not exceed 150°F until ready for fabrication.
- B. Use caution when moving to avoid damage to the edges of the material.
- C. Store on skids or similar material as flat as possible.
- D. Do not stack pallets more than 3 high to ensure flatness and prevent damage to pre-finished surfaces.
- E. Interleaf skids with inverted pallets on $\frac{3}{4}$ " plywood if stacking more than 3 pallets high.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not fabricate products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

- A. King Plastic Corp. warrants that each product to be delivered hereunder will be of the kind designated. NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE SHALL APPLY. The conditions of any tests shall be mutually agreed upon and King Plastic Corp. shall be notified of, and may be represented at, all tests that may be made. If any failure of any product delivered hereunder to be of the kind designated or specified appears prior to the date which is 60 days from the date of shipment, or prior to the date of use or resale of the product by Purchaser, whichever date of shipment, or prior to the date of use or resale of the product by the Purchaser, whichever date sooner occurs, and if the Purchaser shall notify King Plastic Corp. thereof immediately, King Plastic Corp. shall thereupon, at King Plastic Corp.'s option either (1) furnish F.O.B. its plant or such other points as it may designate a reprocessed or replacement product or (2) refund the purchase price. It is understood that any defective product will not be returned until authorized in advance by King Plastic Corp. Returned products should be intact in form as shipped and must retain King Plastic Corp. identity.



- B. The liability of King Plastic Corp. (except as to title) arising out of the supplying of said product, or its use, whether on warranties, contract, negligence or otherwise, shall not in any case exceed the cost of correcting defects in the product as herein provided, and upon the expiration of the applicable warranty period specified herein, all such liability shall terminate. The foregoing shall constitute the sole and exclusive liability of King Plastic Corp. THE WARRANTIES STATED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES (EXCEPT TITLE), WRITTEN OR ORAL, STATUTORY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE, IN NO EVENT SHALL KING PLASTIC CORP. BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGE.
- C. ANY TECHNICAL ADVICE FURNISHED OR RECOMMENDATION MADE BY KING PLASTIC CORP. OR ANY REPRESENTATIVE OF KING PLASTIC CORP. CONCERNING ANY USE OR APPLICATION OF ANY PRODUCT FURNISHED UNDER THIS CONTRACT IS BELIEVED TO BE RELIABLE BUT KING PLASTIC CORP. MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO ITS ACCURACY OR COMPLETENESS OR OF THE RESULTS TO BE OBTAINED. The Purchaser assumes all responsibility for loss or damage resulting from the handling of use of any such product.

PART 2 – PRODUCTS

2.1 MANUFACTURER

- A. Acceptable Manufacturer: King Plastic Corp., Full Contact Information:
1100 N. Toledo Blade Blvd.; North Port, FL 34288
Toll-Free: 800.780.5502, Tel: 941-493-5502; Fax: 941-497-3274
Email: sales@kingplastic.com; Website: www.kingplastic.com
- B. Substitutions: Not permitted.

2.2 PLASTIC MATERIAL

- A. King StarBoard® ST
- B. Consisting of a high-density polymer (HDPE) material for use in fabricating of products mentioned in 1.2 and other products if deemed as acceptable by manufacturer.
- C. Available in the following standard sheet sizes:
i. 1/4", 3/8", 1/2", 3/4", 1" and 1-1/2" thickness.



- ii. 48" X 96" length and width.
- iii. Custom sheet sizes available by request.

D. Available in the following standard colors:

- i. Black, Mocha Brown, Nutmeg, Indigo, Charcoal Gray, Slate Gray, Dolphin Gray, Sansshade, Seafoam and White/White.
- ii. Custom colors available by request.

E. King StarBoard® ST XL is available in a lighter version as a custom product. King StarBoard® XL sheets are up to 30% lighter in weight than King StarBoard® ST and are made with the same matte gloss textured surface and colors for a perfect match.

F. For advanced antimicrobial technology, see King MediGrade®, the antimicrobial polymer building sheet for healthcare applications.

G. King StarBoard® ST is upgradable with King FlameShield, for ASTM E-84 Class A Flame Compliance and CAN/ULC-S102 for Canadian Compliance.

H. Physical Characteristics

- 1. Density: 0.963 g/cc; ASTM D1505
- 2. Tensile Strength @ Yield >4,500 psi; ASTM D638
- 3. Tensile Modulus 318,000 psi; ASTM D638
- 4. Elongation @ Break >600%; ASTM D638
- 5. Elongation @ Yield 8.8%; ASTM D638
- 6. Flexural Modulus 225,000 psi; ASTM D790
- 7. Flexural Stress @ 5% Strain 4,480 psi; ASTM D790
- 8. Compressive Properties 10% Strain 4,790 psi; ASTM D695
- 9. Durometer 69 Shore D; ASTM D2240
- 10. Tensile Impact 99 ft.lbs/in.²; ASTM D1822
- 11. Izod Impact Resistance 1.4 ft.lbs./in.²; ASTM D256
- 12. Brittleness Temp. <-75°C (<-103°F); ASTM D746
- 13. Vicat Softening 132°C (270°F); ASTM D1525
- 14. Heat Deflection Temp. 66 psi, 84°C (183°F); ASTM D648
- 15. Screw and Nail Withdrawal 755 & 55 lbs; ASTM D1761



16. Flammability HB Rating; ASTM UL94

2.3 FABRICATION

- A. Use standard woodworking tools and techniques.

2.4 MASKING

- A. King StarBoard® ST is protected on one side with clear .002" (50microns) thick masking. Testing has shown that leaving the masking on while machining, fabricating, and routing helps ensure a pristine finish.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine polymer sheet and conditions that could adversely affect the product in this section.
- B. Do not begin fabrication of material until it has acclimated to the temperature of the area where the material will be fabricated in.

3.2 PREPARATION

- A. Clean work area prior to moving material to ensure that surface is not affected.
- B. Prepare the material using methods recommended by the manufacturer for achieving the best results.

3.3 ASSEMBLY

- A. Assemble fabricated pieces based on agreed upon requirements between fabricator and architect.
- B. Use standard fasteners for your industry as adhesive are not recommended, special welding rods designed for polymer sheets can be used.



3.4 CLEANING

- A. Clean all surfaces according to manufacturer's published maintenance instructions. Recommend citrus cleaner, alcohol or mineral spirits to remove any grease or oil stains that may have occurred during assembling.
- B. For everyday cleaning of surfaces wash with a mild soap, restrain from using nylon scrub pads and brushes as they may cause marring of the finish if proper care is not taken.

END OF SECTION 06 05 00