

SECTION 12490

WINDOW TREATMENT

PART 1 WORK DESCRIPTION

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

FEDERAL SPECIFICATIONS (FS)

FS AA-V-00200 (Rev B) Venetian Blinds

1.2 GENERAL

Window treatment shall be provided, complete with necessary brackets, fittings, and hardware. Each window treatment type shall be a complete unit. Equipment shall be mounted and operated as indicated. Windows to receive a treatment shall be completely covered. The Contractor shall take measurements at the building and shall be responsible for the proper fitting and hanging of the equipment.

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Window Treatments and Hardware; FIO.

Manufacturer's data composed of catalog cuts, brochures, product information, and maintenance instructions.

SD-04 Drawings

Window Treatments and Hardware; FIO.

Drawings showing fabrication and installation details. Drawings shall show layout and locations of track, direction of draw, mounting heights, and details.

SD-14 Samples

Window Treatments and Hardware; GA.

Three samples of each type and color of window treatment. Blind slats or louvers shall be 150 mm in length for each color. Track shall be 150 mm in length.

1.4 DELIVERY, STORAGE, AND HANDLING

Components shall be delivered to the jobsite in the manufacturer's original packaging with the brand or company name, item identification, and project reference clearly marked. Components shall be stored in a dry location that is adequately ventilated and free from dust, water, or other contaminants and shall have easy access for inspection and handling. Materials shall be stored flat in a clean dry area with temperature maintained above 10 degrees C.

#### 1.5 FIELD MEASUREMENTS

The Contractor shall become familiar with details of the work, verify dimensions in the field, and shall advise the Contracting Officer of any discrepancy before performing the work.

#### 1.6 WARRANTY

Manufacturer's standard performance guarantees or warranties that extend beyond a 1 year period shall be provided.

### PART 2 PRODUCTS

#### 2.1 WINDOW BLINDS

Each blind, including hardware, accessory items, mounting brackets and fastenings, shall be provided as a complete unit produced by one manufacturer. All parts shall be one color unless otherwise shown, and match the color of the blind slat. Steel features shall be treated for corrosion resistance.

##### 2.1.1 Horizontal Blinds

Horizontal blinds shall conform to FS AA-V-00200, Type II (25 mm (1 inch) slats), except as modified below. Blind units shall be capable of nominally 180 degree partial tilting operation and full-height raising. Blinds shall be inside mount as shown. Tapes for Type I slats shall be longitudinal reinforced vinyl plastic in 1-piece turn ladder construction.

##### 2.1.1.1 Head Channel and Slats

Head channel shall be steel or aluminum nominal 0.61 mm for Type II. Slats shall be aluminum, not less than 0.203 mm thick, and of sufficient strength to prevent sag or bow in the finished blind. A sufficient amount of slats shall be provided to assure proper control, uniform spacing, and adequate overlap.

##### 2.1.1.2 Controls

The slats shall be tilted by a transparent tilting wand, hung vertically by its own weight, and shall swivel for easy operation. The tilter control shall be of enclosed construction. Moving parts and mechanical drive shall be made of compatible materials which do not require lubrication during normal expected life. The tilter shall tilt the slats to any desired angle and hold them at that angle so that any vibration or movement of ladders and slats will not drive the tilter and change the angle of slats. A mechanism shall be included to prevent over tightening. The wand shall be of sufficient length to reach to within 1500 mm of the floor.

##### 2.1.1.3 Intermediate Brackets

Intermediate brackets shall be provided for installation of blinds over 1200 mm wide and shall be installed as recommended by the manufacturer.

2.1.1.4 Hold-Down Brackets

Universal type hold-down brackets for sill or jamb mount shall be provided.

2.2 COLOR

Color shall be as specified on drawings.

PART 3 EXECUTION

3.1 WINDOW TREATMENT PLACEMENT SCHEDULE

Window covering shall be provided for all exterior windows, except in control tower cab (1101).

3.2 INSTALLATION

Installation shall be in accordance with the approved detail drawings and manufacturer's installation instructions. Units shall be level, plumb, secure, and at proper height and location relative to window units. The Contractor shall furnish and install supplementary or miscellaneous items in total, including clips, brackets, or anchorages incidental to or necessary for a sound, secure, and complete installation. Installation shall not be initiated until completion of room painting and finishing operations. Upon completion of the installation, window treatments shall be adjusted for form and appearance, shall be in proper operating condition, and shall be free from damage or blemishes. Damaged units shall be repaired or replaced by the Contractor as directed by the Contracting Officer.

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SECTION 12513

ATCT TRANSPARENT PLASTIC WINDOW SHADES

PART 1 GENERAL

1.1 GENERAL

This specification sets forth the requirements for material, fabrication, transportation and installation of plastic window shades for use in Airport Traffic Control Tower (ATCT) cabs. These shades are required to reduce the sun's direct and reflective glare and to contribute to temperature control of tower cabs. Shades shall be installed on all exposures of the cab. Text

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

FEDERAL SPECIFICATION (FS)

FS L-P-377b (FEB 1966) Plastic Sheet and Strip,  
Polyester.

FEDERAL STANDARD (FED-STD)

FED-STD-102 Preservation, Packaging, and Packing  
Levels.

ASSOCIATION OF INDUSTRIAL METALIZERS, COATERS AND LAMINATORS  
(AIMCAL)

Standard Methods Copies of this standard may be obtained  
from AIMCAL, 61 Blue Ridge Road, Wilton,  
CT 06897 - (203)762-5611

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

ATCT Shades and Accessories; FIO.

Manufacturer's descriptive data, documentation stating physical characteristics, flame resistance, mildew and germicidal characteristics.

SD-06 Instructions

Installation; FIO.

Preprinted installation instructions for ATCT shades and accessories.

Maintenance; FIO.

Preprinted cleaning and maintenance instructions for ATCT Shades and accessories, including shade aging report with recommended replacement prognoses schedules, etc.

#### SD-13 Certificates

ATCT Shades; FIO.

Manufacturer's statement attesting that the product furnished meets or exceeds specification requirements. The statement must; be dated after the award of the contract, state Contractor's name and address, name the project and location, and list the requirements being certified.

#### SD-14 Samples

ATCT Shades and Accessories; GA.

Three samples of each indicated type and color of shade material. Samples shall be minimum 125 x 175 mm.

### 1.4 MATERIAL TO BE FURNISHED

Material furnished by the Contractor shall be complete in accordance with all specification requirements and shall include the following items.

#### 1.4.1 TRANSPARENT PLASTIC SHADE MATERIAL

Shade film shall be manufactured from a polyester type polymer in accordance with FS L-P-377b for Type W Weatherable DuPont's "Mylar" clear sheet film, or approved equal.

##### 1.4.1.1 TRANSPARENT PLASTIC SHADE FILM CONSTRUCTION

The transparent plastic shade film construction shall be in accordance with Couryauld Martin Processing, an ISO 9001 registered company, Type R54 BG/BG SR 500, or approved equal. Shade product shall consist of four-ply laminated polyester film. The two laminated center sheets shall be 0.0381 mm thick polyester vat dyed gray in color meeting the Martin Processing Co. of Martinville, VA specification (Gray dye, reference #8301 and laminate reference #51012 and metalized), or approved equal. A clear 1 mil thick polyester film shall be laminated to each side of the gray dyed film laminate. One side of the shade film surface shall be protected with a scratch resistant coating. The final film construction will be 0.127 mm thick, optically clear and totally transparent. Surface tinting and/or color adhesives will not be an acceptable equal without independent reports qualifying the color stability in comparison with the vat dyed process.

##### a. Visible Light Transmission

The shade shall transmit no more than 4 percent of the visible solar energy (from 380 to 780 nanometers) when measured by AIMCAL Standard Methods.

#### 1.5 Ultra-Violet Transmission

The shade shall transmit no more than 2 percent of the ultra-violet solar energy (from 300 to 380 nanometers) when measured by AIMCAL Standard Methods.

#### 1.6 Total Solar Energy Rejected

The shade shall reject 60.5 percent of the total solar energy transmitted from 360 to 2100 nanometers when measured by AIMCAL Standard Methods.

- a. Solar Absorptance: 61 percent.
- b. Shading Coefficient: 0.45.
- c. Solar Heat Gain Coefficient: 0.40.

#### 1.7 BOTTOM BAR

Shades shall have a flat 25.4 mm by 12.7 mm dull black, full width metal hemline bar, (minimum of 26 gage) at bottom onto which the pull cord and shade are attached. Black plastic caps shall be provided on each end of the hemline bar to cover any sharp exposed edges.

#### 1.8 SHADE CORDS

Cords shall be colored black and of sufficient length to route around stairwell and equipment to cord lock positions whenever required. The cords shall be diameter rope made of 4.5 Duro Nylon or approved equal and shall be attached underneath the center of the bottom of the hemline bar.

#### 1.9 SHADE ROLLERS

Shades shall be mounted on 44.45 mm diameter metal wrapped rollers. The rollers shall be spring loaded, single piece barrel, with a reusable safety cotter key type retainer installed through both end pins and washers to prevent roller from falling out of mounting brackets. Constant tension in shades is required. Mounting brackets shall be Plastic-View, Simi Valley, CA, PV 128-205A and B, or approved equal with a 57.15 mm resting ledge. Regular "industry norm" ceiling brackets are not acceptable. A label stating "THIS END DOWN" with an arrow pointing in the proper installation direction of the roller into the mounting brackets shall be placed on the spring motor end of each shade roller. A number sticker on the bottom of the K-Bars, with each shade's number, this aids in saving installation time and eliminates the possibility of putting wrong shade in wrong brackets during shade washing, cab painting, ceiling work, etc. The shade film laminate material shall be mounted on rollers so as to minimize ridging. Roll-off direction of material from roller shall be as directed by the shade manufacturer for use in the specific tower cab under consideration. Each shade shall have a label or whatever suitable means required to specify and identify the proper roll-off direction, as called for by N.A.F.E.C/National Test Center, etc.

#### 1.10 SHADE LABELS

Each shade shall have two (2) manufacturer's label attached to the metal bar hemline giving cleaning instructions and the telephone number for emergency service.

#### 1.11 LOCK PULLEY AND CORD DIRECTION CHANGE PULLEY

Lock pulleys shall consist of a roller and a spring return side action cam

cord grip #R359 R.W.O. or approved equal. Cord direction change pulleys #PV-128-CDC/5-1006/8 Plastic View, Simi Valley, CA or approved equal shall be used to route shade cord around obstructions where they exist. Pulleys shall be positioned in direct line with cord outlet on metal hemline.

#### 1.12 SPECIAL TOOLS FOR THE SHADES

- a. Spring Motor Winder Tool to re-energize or add tension to spring.
- b. Stick Hook for snagging "Flip-Over" cord when tightening or loosening the spring motor tensions.
- c. Wood Plate with bracket, for added support on Hunt Avco Vents or improvised installations where acoustical ceilings go clear out to glass or if wood plate in recess chopped off "short" or as a "shim" if recess is out of level.
- d. Arm Down will be needed for where consoles are higher than bottom of the window panes.

#### 1.13 FABRICATION

##### 1.13.1 SHADE SIZE

Shade roller tip-to-top width shall be to within 12.7 mm of maximum possible width as determined by physical limitations. Shade material width with shade fully drawn shall be to within 25.4 mm of columns on bias cut sides and to within 45 mm of columns on vertical cut sides. Horizontal seam shall be located a minimum of 170 mm from the bottom of the shade. Shades in ATCT cabs shall be bias cut when required. To ensure a safe roll-up, a minimum of 380 mm of shade material shall remain on the roller when the shade is fully extended.

##### 1.13.2 MEASURING FOR SHADES

Measuring for shades and positioning shall be strictly in accordance with the shade manufacturer's instructions. Marks showing the precise position of all brackets, pulleys, and metal hemline positions as related to the factory measuring instructions shall be provided. All measurements shall be taken per instructions from shade manufacturer.

#### 1.14 PACKAGING

Packaging shall be in accordance with FED-STD-102, Level "B". Shades shall be packaged to afford adequate protection against deterioration and damage during shipment. The supplier may use his standard practice when it meets these requirements.

#### 1.15 INSTALLATION

Shades shall be installed in shade recess pockets or on wood or metal plates. Shades shall follow the slope of cab glass as closely as practical within physical limitations of air ducts and other equipment. No drilling is to be done in vertical uprights of cab, as some uprights contain electrical cables. Spring tension in roller shall be manually adjusted so that shades roll up comfortable. In order to safely control and limit the shade travel, the installer shall make two knots in the shade cord. One knot is to be placed before the lock pulley to prevent the metal hemline bar from hitting the window sill. The second knot is to be placed after

the lock pulley to prevent the metal hemline bar from hitting and overrunning the shade roller. Adherence to the "THIS END DOWN" label when installing shade will prevent improper roller installation which can be result in a locked shade situation when the metal bar hemline is near the lock pulley and cannot be pulled down to release the spring motor cam lock.

#### 1.16 QUALITY ASSURANCE

##### 1.16.1 SHOP DRAWINGS

The Contractor shall submit shop drawings based on actual site conditions, material lists, an 203 mm by 254 mm or larger sample of shade material, and a hand sample model of the roller and hardware for inspection prior to the fabrication of shades.

##### 1.16.2 WARRANTY

The Contractor shall furnish the Government with three (3) certified copies of the product warranty that certifies that all the specification requirements have been met.

##### 1.16.3 PACKAGING

Packaging shall meet or exceed requirements of FED-STD-102. Shades that get damaged during shipping shall be rejected and replaced.

#### 1.17 DELIVERY AND STORAGE

Shades shall be delivered to the site in manufacturers original unopened containers labeled with manufacturers name, shade location number, size and related information. Materials shall be stored in accordance with the manufacturer's instructions in a clean dry ventilated area with temperature maintained above 16 degrees C for two days prior to installation.

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