

PART 1 - GENERAL

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 the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 699	(1995) Glazing Compounds for Back Bedding and Pace Glazing of Metal Sash
ASTM C 920	(1995) Elastomeric Joint Sealants
ASTM C 1036	(1991) Flat Glass
ASTM C 1048	(1992) Heat- Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass
ASTM E 774	(1992) Sealed Insulating Glass Units

CODE OF FEDERAL REGULATIONS (CFR)

16 CFR 1201	Safety Standard for Architectural Glazing Materials
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GLASS ASSOCIATION OF NORTH AMERICA (GANA)

GANA GM	(1997) Glazing Manual
GANA SM	(1990) Sealant Manual

SEALED INSULATING GLASS MANUFACTURERS ASSOCIATION (SIGMA)

SIGMA A1202	(1983) Commercial Insulating Glass Dimensional Tolerances
SIGMA TM- 3000	(1990) Vertical and Basic Field Glazing of Organically Sealed Insulating Glass Units
SIGMA TB- 3001	(1990) Sloped Glazing of Organically Sealed Insulating Glass Units

1.2 SUBMITTALS

Submit the following in accordance with Section 01330, "Submittal Procedures."

- 1.2.1 SD-08, Manufacturer's Instructions
 - a. Setting and sealing materials
 - b. Glass setting

Submit glass manufacturer's recommendations for setting and sealing materials and for installation of each type of glazing material specified.

1.3 DELIVERY, STORAGE, AND HANDLING

Deliver products to the site in unopened containers, labeled plainly with manufacturers' names and brands. Store glass and setting materials in safe, dry locations and do not unpack until needed for installation. Handle and install materials in a manner that will protect them from damage.

1.4 ENVIRONMENTAL REQUIREMENTS

Do not start glazing work until the outdoor temperature is above 40 degrees F and rising, unless procedures recommended by the glass manufacturer and approved by the Contracting Officer are made to warm the glass and rabbet surfaces. Provide ventilation to prevent condensation of moisture on glazing work during installation. Do not perform glazing work during damp or rainy weather.

1.5 WARRANTY

1.5.1 Warranty for Insulating Glass Units

Warranty insulating glass units against development of material obstruction to vision (such as dust or film formation on the inner glass surfaces) caused by failure of the hermetic seal, other than through glass breakage, for a 5- year period following acceptance of the work. Provide new units for any units failing to comply with terms of this warranty within 45 working days after receipt of notice from the Government

PART 2 - PRODUCTS

2.1 GLASS

ASTM C 1036, unless specified otherwise. In doors and sidelights, provide safety glazing material conforming to 16 CFR 1201.

2.1.1 Clear Glass

Type I, Class 1 (clear), Quality q4 (A). Provide for glazing openings not indicated or specified otherwise. Use double- strength sheet glass 1/4 inch for glazing openings but not over 45 square feet.

2.1.2 Heat- Absorbing Glass (For Insulating Units)

Type I, Class 2 (heat absorbing and light reducing), Quality q3 (select) 1/4 inch thick, in bronze tint, with a light transmittance of approximately 45 percent and total solar transmittance of not more than 50 percent for 1/4 inch thickness.

2.1.3 Ceramic-Coated Spandrel Glass

ASTM C 1048, Condition B (spandrel glass, one-surface ceramic coated), Type I (transparent glass, flat), Quality q3 (glazing select), and complying with other requirements specified in schedules at the end of Part 3.

2.1.3.1 Fallout Resistance: Provide spandrel units identical to those passing the fallout-resistance test for spandrel glass specified in ASTM C 1048.

2.1.4 Tempered Glass

ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated), Type I, Class 1 (transparent) at interior locations or 2 (tinted heat absorbing), at exterior locations Quality q3, ¼ inch thick as noted on drawings.

2.1.4 Wire Glass

Type II, Class 1 Conform to NFPA 80. Glass for fire-rated windows shall be UL listed and shall be rated for 45 minutes when tested in accord with ASTM E 163. All glass in fire rated openings such as stairwell doors shall be wire glass.

2.2 INSULATING GLASS UNITS

Two panes of glass separated by a dehydrated airspace and hermetically sealed. Dimensional tolerances shall be as specified in SIGMA A1202. The units shall conform to ASTM E 774, Class A.

2.2.1 Buildings

Provide 1/2 inch airspace. The inner light shall ASTM C 1048, Grade B (fully tempered), Style I (uncoated), Type I, Class 1 (transparent), Quality q3, 1/4 inch thick. The outer light shall be ASTM C 1048, Grade B (fully tempered), Style I (uncoated), Type I, Class2 (tinted heat absorbing), Quality q4, 1/4 inch thick.

2.2 MONOLITHIC CERAMIC-COATED SPANDREL GLASS

Ceramic coated spandrel glass: Float glass Type I, Class 2 (heat absorbing and light reducing), in bronze tint, ceramic coating location on the fourth surface. Coating color to allow for match of overall unit with adjacent glass.

2.3 SETTING AND SEALING MATERIALS

Provide as specified in the GANA GM, SIGMA TM- 3000, SIGMA TB- 3001, and manufacturer's recommendations, unless specified otherwise herein. Do not use metal sash putty, nonskinning compounds, nonresilient preformed sealers, or impregnated preformed gaskets. Materials exposed to view and unpainted shall be gray or neutral color.

2.3.1 Glazing Compound

ASTM C 669. Use for face glazing metal sash. Do not use with insulating glass units or laminated glass.

2.3.2 Elastomeric Sealant

ASTM C 920, Type S or M, Grade NS, Class 12.5, Use G. Use for channel or stop glazing metal sash. Sealant shall be chemically compatible with setting blocks, edge blocks, and sealing tapes, and with sealants used in manufacture of insulating glass units Color of sealant shall be as selected.

2.3.3 Preformed Channels

Neoprene, vinyl, or rubber, as recommended by the glass manufacturer for the particular condition.

2.3.4 Sealing Tapes

Preformed, semisolid, polymeric- based material of proper size and compressibility for the particular condition. Use only where glazing rabbet is designed for tape and tape is recommended by the glass or sealant manufacturer. Provide spacer shims for use with compressible tapes. Tapes shall be chemically compatible with the product being set.

2.3.5 Setting Blocks and Edge Blocks

Lead or neoprene of 70 to 90 Shore "A" durometer hardness, chemically compatible with sealants used, and of sizes recommended by the glass manufacturer.

2.3.6 Accessories

Provide as required for a complete installation, including glazing points, clips, shims, angles, beads, and spacer strips. Provide noncorroding metal accessories. Provide primer- sealers and cleaners as recommended by the glass and sealant manufacturers.

PART 3 - EXECUTION

3.1 PREPARATION

Preparation, unless otherwise specified or approved, shall conform to applicable recommendations in the GANA GM, GANA SM, SIGMA TB- 3001, SIGMA TM- 3000, and manufacturer's recommendations. Determine the sizes to provide the required edge clearances by measuring the actual opening to receive the glass. Grind smooth in the shop glass edges that will be exposed in finish work. Leave labels in place until the installation is approved, except remove applied labels on heat-absorbing glass and on insulating glass units as soon as glass is installed. Securely fix movable items or keep in a closed and locked position until glazing compound has thoroughly set.

3.2 GLASS SETTING

Shop glaze or field glaze items to be glazed using glass of the quality and thickness specified or indicated. Glazing, unless otherwise specified or approved, shall conform to applicable recommendations in the GANA GM, GANA SM, SIGMA TB-3001, SIGMA TM-3000, and manufacturer's recommendations. Handle and install glazing materials in accordance with manufacturer's instructions. Use beads or stops which are furnished with items to be glazed to secure the glass in place.

3.2.1 Sheet Glass

Cut and set with the visible lines or waves horizontal.

3.2.2 Insulating Glass Units

Do not grind, nip, or cut edges or corners of units after the units have left the factory. Springing, forcing, or twisting of units during setting will not be permitted. Handle units so as not to strike frames or other objects. Installation shall conform to applicable recommendations of SIGMA TB-3001 and SIGMA TM-3000.

3.2.3 Installation of Wire Glass

Install glass for fire doors in accordance with installation requirements of NFPA 80.

3.2.4 Installation of Heat- Absorbing Glass

Glass shall have clean-cut, factory-fabricated edges. Field cutting will not be permitted.

3.3 CLEANING

Clean glass surfaces and remove labels, paint spots, and other defacement as required to prevent staining. Glass shall be clean at the time the work is accepted.

END OF SECTION