ARCHITECTURAL GENERAL SPECIFICATIONS:

7.1 DOORS AND WINDOWS - FLUSH WOOD DOORS:

PART 1 - GENERAL

1.01 SUMMARY

A. PROVIDE FLUSH WOOD DOORS WHERE INDICATED:
1. INTERIOR SOLID CORE FLUSH DOORS.

1.02 SUBMITTALS

A. NONE REQUIRED UNLESS SUBMITTING FOR APPROVED EQUALS.

1.03 QUALITY ASSURANCE

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS, WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. STANDARDS: COMPLY WITH THE PROVISIONS OF THE FOLLOWING SPECIFICATIONS AND STANDARDS, EXCEPT AS OTHERWISE NOTED OR SPECIFIED, OR AS ACCEPTED OR DIRECTED BY THE OWNER.
1. QUALITY STANDARDS: NWWDA I.S. 1A, AND AWI ARCHITECTURAL QUALITY STANDARDS.
2. QUALITY STANDARDS: NWWDA I.S. 1A, AND WIC MANUAL OF MILLWORK.
3. FIRE RATED WOOD DOORS: MEETING NFPA 252 REQUIREMENTS.

PART 2 - PRODUCTS

2.01 MATERIALS

A. MANUFACTURERS: AMPCO, MOHAWK, SUMMIT, GRAHAM, OR APPROVED EQUAL
B. INTERIOR SOLID CORE DOORS:
1. GRADE: CUSTOM GRADE.
2. CONSTRUCTION: PC-7 (7-PLY, PARTICLEBOARD CORE) OR SLC-7 (7-PLY, GLUED-BLOCK CORE), 1-3/4 INCHES THICK.
3. WOOD FINISH: ROTARY-SLICED NATURAL BIRCH FACES.
4. RATING: PROVIDE RATING AS SCHEDULED ON DRAWINGS. DO NOT FINISH OVER REQUIRED LABEL.
C. AUXILIARY MATERIALS (WHERE SCHEDULED ON DRAWING):
1. GLAZING FRAMES: PROVIDE MANUFACTURERS STANDARD STEEL CHANNEL OR TUBULAR STOPS, 18 GAGE COLD ROLLED STEEL, FACTORY PRIMED, AND APPROVED FOR USE IN DOOR OF FIRE-RATING INDICATED, PRE-DRILLED FOR SCREWS AND FACTORY FINISHED AS SPECIFIED FOR DOORS AND FRAMES.

2.02 HARDWARE

A. PREPARATION: PREPARE WOOD DOOR UNITS TO RECEIVE MORTISED AND CONCEALED FINISHED HARDWARE, INCLUDING CUTOUTS, REINFORCING, DRILLING AND TAPPING IN ACCORDANCE WITH DOOR HARDWARE SCHEDULE AND TEMPLATES PROVIDED BY THE HARDWARE SUPPLIER. REINFORCE WOOD DOOR UNITS TO RECEIVE SURFACE-APPLIED HARDWARE. DRILLING AND TAPPING FOR SURFACE-APPLIED HARDWARE WILL BE DONE ON THE JOB SITE.
B. LOCATION OF HARDWARE: LOCATE FINISH HARDWARE AS INDICATED IN DOOR HARDWARE SUPPLIER TEMPLATES AND/OR IN COMPLIANCE WITH DOOR AND HARDWARE INSTITUTE PUBLICATION "RECOMMENDED LOCATION FOR BUILDERS HARDWARE".

2.03 FINISH

A. COMPLY WITH O'REILLY AUTO PARTS PAINTING REQUIREMENTS. DO NOT PRIME OR FINISH TESTING AGENCY LABELS. REFER TO INTERIOR FINISH SCHEDULE FOR COLORS.
B. FACTORY PRE-FINISHED.
C. COLOR: EQUAL TO GRAHAM #300 MEDIUM BROWN. ANY VARIANCE REQUIRES SUBMITTAL OF SAMPLE FOR PRIOR APPROVED BY OWNER.

PART 3 - EXECUTION

3.01 INSTALLATION

A. INSTALL DOOR AND FRAMES IN COMPLIANCE WITH SDI-100 AND NWMA I.S 1A. PREFIT DOORS TO FRAMES. PREMACHINE DOORS FOR HARDWARE LISTED ON DOOR HARDWARE SCHEDULES. FACTORY BEVEL DOORS.
B. SET DOOR AND FRAME ACCURATELY IN POSITION, PLUMB AND ALIGNED, AND SECURELY ANCHOR TO ADJACENT CONSTRUCTION.
C. INSTALL HARDWARE, ADJUST AS REQUIRED TO PROVIDE SMOOTH AND PROPER OPERATION WITH SECURE LATCHING OR LOCKING.
D. INSTALL DOORS WITH NOT MORE THAN 1/8-INCH CLEARANCE AT TOP AND SIDES, 1-INCH AT BOTTOM UNLESS OTHERWISE INDICATED.
E. ERECT FIRE DOORS AND FRAMES IN COMPLIANCE WITH NFPA 80 AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
F. TOUCH-UP DAMAGED COATINGS AND LEAVE READY TO RECEIVE FINAL FINISH.
G. ADJUST, CLEAN, AND PROTECT.

7.2 DOORS AND WINDOWS - SECTIONAL OVERHEAD DOORS:

PART 1 - GENERAL

1.01 SUMMARY

A. PROVIDE SECTIONAL OVERHEAD DOORS:
1. EXTERIOR UNITS.

1.02 SUBMITTALS

A. NONE REQUIRED UNLESS SUBMITTING FOR APPROVED EQUALS.

1.03 QUALITY ASSURANCE

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS, WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS
B. STANDARDS: COMPLY WITH THE PROVISIONS OF THE FOLLOWING SPECIFICATIONS AND STANDARDS, EXCEPT AS OTHERWISE NOTED OR SPECIFIED, OR AS ACCEPTED OR DIRECTED BY THE ARCHITECT.
1. ANSI/DASMA 102-2004, AMERICAN NATIONAL STANDARDS SPECIFICATIONS FOR SECTIONAL OVERHEAD TYPE DOORS.
2. ANSI/DASMA 105, TEST METHOD FOR THERMAL TRANSMITTANCE AND AIR INFILTRATION OF GARAGE DOORS.
3. ANSI/DASMA 108, STANDARD METHOD FOR TESTING SECTIONAL GARAGE DOORS: DETERMINATION OF STRUCTURAL PERFORMANCE UNDER UNIFORM STATIC AIR PRESSURE DIFFERENCE.
4. ANSI/DASMA 115, STANDARD METHOD FOR TESTING GARAGE DOORS - DETERMINATION OF STRUCTURAL PERFORMANCE UNDER MISSILE IMPACT AND CYCLIC WIND PRESSURE.

PART 2 - PRODUCTS

2.01 MATERIALS

A. MANUFACTURERS: OVERHEAD DOOR CORP. "591" SERIES. EQUIVALENT BY RAYNOR GARAGE DOOR CO., WAYNE/DALTON CORP., ATLAS ROLL-LITE OVERHEAD DOORS, WINDSOR DOOR, OR APPROVED EQUAL.
B. SECTIONAL OVERHEAD DOORS:
1. PANEL THICKNESS: 1-5/8 INCH.
2. EXTERIOR SURFACE: RIBBED, TEXTURED.
3. EXTERIOR STEEL: [illegible]16 INCH, HOT-DIPPED GALVANIZED.
4. END STYLES: 16 GAGE.
5. STANDARD SPRING: 10,000 CYCLES (HIGH CYCLES).
6. INSULATION: CFC-FREE AND HCFC-FREE POLYURETHANE, FULLY ENCAPSULATED.
7. THERMAL VALUES: R-VALUE OF [illegible], U-VALUE OF 0.067.
8. AIR INFILTRATION: [illegible]08 CFM AT 15 MPH; 0.13 CFM AT 25 MPH.
9. HIGH-USAGE PACKAGE: REQUIRED.

7.2 DOORS AND WINDOWS - SECTIONAL OVERHEAD DOORS (CONT.):

C. FINISH AND COLOR: TWO-COAT BAKED-ON POLYESTER WITH WHITE EXTERIOR AND WHITE INTERIOR. FIELD PAINT AS INDICATED ON DRAWINGS (TO COMPLY WITH O'REILLY AUTO PARTS PAINTING REQUIREMENTS).
D. WIND LOAD DESIGN: ANSI/DASMA 102 STANDARDS IN CONFORMANCE WITH LOCAL CODE REQUIREMENTS. REFER TO DRAWINGS FOR GOVERNING CODE. WHERE REQUIRED, HIGH WIND RESISTANCE COMPONENTS AND ASSEMBLIES SHALL MEET OR EXCEED MINIMUM IMPACT RESISTANCE AND DESIGN PRESSURES INDICATED, BUT NOT LESS THAN -50/+50 PSF WHEN TESTED IN ACCORDANCE WITH ANSI/DASMA 108. UNIT SHALL BE TESTED, LISTED, AND LABELED BY AN INDEPENDENT TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. LABELS SHALL BE AFFIXED TO COMPONENTS. DO NOT PAINT LABELS.
E. HARDWARE: GALVANIZED STEEL HINGES AND FIXTURES. BALL BEARING ROLLERS WITH HARDENED STEEL RACES.
F. LOCK: INTERIOR MOUNTED SLIDE LOCK ENGAGING BOTH JAMB TRACKS WITH SINGLE ACTION.
G. WEATHERSTRIPPING: EPDM RUBBER TUBE SEALS FITTED INSIDE JOINTS BETWEEN SECTIONS. EPDM RUBBER BULB-TYPE STRIP AT BOTTOM. HEADER AND JAMB WEATHERSTRIPPING.
H. TRACK: PROVIDE LIFT CLEARANCE TYPE TRACK AS RECOMMENDED BY MANUFACTURER TO SUIT LOADING REQUIRED AND CLEARANCES AVAILABLE.
I. OPERATION: MANUAL PULL ROPE.
J. ATTACHMENT: PROVIDE SECONDARY FRAMING AND FASTENERS AS REQUIRED BY MANUFACTURER FOR PROPER OPERATION.

PART 3 - EXECUTION

3.01 INSTALLATION

A. INSTALL MATERIALS AND SYSTEMS IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS. INSTALL MATERIALS AND SYSTEMS IN PROPER RELATION WITH ADJACENT CONSTRUCTION AND WITH UNIFORM APPEARANCE. COORDINATE WITH WORK OF OTHER SECTIONS.
B. INSTALL ASSEMBLIES COMPLETE WITH ALL HARDWARE, ANCHORS, INSERTS, SUPPORTS, AND ACCESSORIES. RESTORE DAMAGED FINISHES AND TEST FOR PROPER OPERATION. CLEAN AND PROTECT WORK FROM DAMAGE.

7.3 DOORS AND WINDOWS - ALUMINUM ENTRANCES AND STOREFRONTS:

PART 1 - GENERAL

1.01 SUMMARY

A. PROVIDE ALUMINUM ENTRANCES AND STOREFRONT:
1. EXTERIOR ENTRANCE DOORS.
2. FRAMES FOR ENTRANCES.
3. STOREFRONT-TYPE FRAMING SYSTEM.
4. TRANSOMS.
5. SIDELIGHTS.

1.02 SUBMITTALS

A. NONE REQUIRED UNLESS SUBMITTING FOR APPROVED EQUALS.

1.03 QUALITY ASSURANCE

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS, WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. PROVIDE FIVE YEAR WARRANTY UNDER PROVISIONS OF GENERAL CONDITIONS INCLUDING COVERAGE FOR INSULATED GLASS UNITS.

1.04 PERFORMANCE REQUIREMENTS

A. PROVISION FOR THERMAL MOVEMENTS: SYSTEM PERFORMANCE TO PROVIDE FOR EXPANSION AND CONTRACTION WITHIN SYSTEM COMPONENTS CAUSED BY TEMPERATURE CYCLING RESULTING FROM A SURFACE TEMPERATURE RANGING FROM 0° F TO 180° F WITHOUT CAUSING BUCKLING, STRESSING ON GLASS, FAILURE OF JOINT SEALS, UNDUE STRESS ON STRUCTURAL ELEMENTS, DAMAGING LOADS ON FASTENERS, REDUCTION OF PERFORMANCE, OR OTHER DETRIMENTAL EFFECTS. OPERATING DOORS AND WINDOWS SHALL FUNCTION NORMALLY OVER THIS TEMPERATURE RANGE.
B. TEST PROCEDURES AND PERFORMANCE (REFER TO DRAWINGS FOR STRUCTURAL DESIGN CRITERIA):
1. AIR INFILTRATION:
a. TEST UNITS IN ACCORDANCE WITH ASTM E 283 AT STATIC AIR PRESSURE DIFFERENCE OF [illegible].24 PSF.
b. AIR INFILTRATION SHALL NOT EXCEED 0.06 CMF/FT MAXIMUM PER SQUARE FOOT OF FIXED WALL AREA.
2. WATER RESISTANCE:
a. TEST UNIT IN ACCORDANCE WITH ASTM E 331.
b. THERE SHALL BE NO WATER LEAKAGE AT A STATIC TEST PRESSURE OF 12.0 PSF.
3. UNIFORM LOAD DEFLECTION:
a. TEST IN ACCORDANCE WITH ASTM E 330.
b. DESIGN AND SIZE MEMBERS TO WITHSTAND NOT LESS THAN 30 PSF MINIMUM POSITIVE AND NEGATIVE DESIGN WIND PRESSURE NORMAL TO THE PLANE OF THE WALL, UNLESS GREATER LOADS ARE REQUIRED BY LOCAL CODE REQUIREMENTS.
c. DEFLECTION UNDER DESIGN LOAD SHALL NOT EXCEED L/[illegible] OF THE CLEAR SPAN.
4. STRUCTURAL UNIFORM LOAD:
a. TEST IN ACCORDANCE WITH ASTM 330 AT NOT LESS THAN 1.5 TIMES THE DESIGN WIND PRESSURE SPECIFIED, MINIMUM 60 PSF.
b. AT CONCLUSION OF THE TEST, THERE SHALL BE NO GLASS BREAKAGE, PERMANENT DAMAGE TO FASTENERS, STOREFRONT PARTS, OR ANY OTHER DAMAGE WOULD CAUSE THE STOREFRONT TO BE DEFECTIVE.
5. CONDENSATION RESISTANCE FACTOR:
a. TEST UNIT IN ACCORDANCE WITH ASTM 1503.1.
b. CONDENSATION RESISTANCE FACTOR (CRF) SHALL NOT BE LESS THAN 59.
6. THERMAL TRANSMITTANCE:
a. TEST UNIT IN ACCORDANCE WITH ASTM 1503.1.
b. CONDUCTIVE THERMAL TRANSMITTANCE (U-VALUE) SHALL NOT BE LESS THAN 0.63 BTU/HR/DEGREE F/SF.

PART 2 - PRODUCTS

2.01 MATERIALS

A. MANUFACTURERS: EFCO SPECIFIED. APPROVED EQUAL BY KAWNEER OR OLDCASTLE BUILDING ENVELOPE, (NO SUBSTITUTES).
B. FRAMING:
1. MATERIALS: ALUMINUM, EXTRUDED, 6063 T5 OR T6 ALLOY AND TEMPERED, MEETING REQUIREMENTS OF ASTM B 221, ALLOY GS 10A-T5.
2. CONSTRUCTION: MANUFACTURER'S STANDARD ASSEMBLIES OF EITHER SCREW SPLINE OR SHEAR BLOCK CONNECTIONS MEETING TEST PROCEDURES AND PERFORMANCE REQUIREMENTS SPECIFIED. WHERE REQUIRED BY PROJECT CONDITIONS, PROVIDE ADDITIONAL VERTICAL STEEL REINFORCEMENT.
3. FASTENERS: ALUMINUM OR NON-MAGNETIC STAINLESS STEEL. CONCEALED FASTENINGS SHALL BE CADMIUM OR ZINC-PLATED STEEL.
C. ALUMINUM ENTRANCES AND STOREFRONT (REFER TO DRAWINGS):
1. EXTERIOR FRAMING:
a. QUALITY STANDARD: EQUAL TO EFCO SERIES "403 (T)".
b. SIZE: 2" X 4 1/2" X 0.080" WALL THICKNESS, PLUS OR MINUS 0.005, HEAVY DUTY MULLION, EFCO SERIES 9314/9323, IXX = 8.207.
c. CONSTRUCTION: THERMAL BROKEN PER MANUFACTURER'S STANDARDS.
d. GLAZING STOPS: UNITS SHALL BE 1 INCH INSULATED DOUBLE GLAZED CONSISTING OF 1/4 INCH EXTERIOR PANE, 1/2 INCH AIR SPACE, 1/4 INCH INTERIOR PANE INSTALL FROM EXTERIOR SIDE.
2. INTERIOR FRAMING:
a. QUALITY STANDARD: EQUAL TO EFCO SERIES "402 (NT)".
b. SIZE: 2" X 4 1/2".
c. CONSTRUCTION: NON-THERMAL BROKEN PER MANUFACTURER'S STANDARDS.
d. GLAZING STOPS: UNITS SHALL BE 1/4 INCH NON-INSULATED SINGLE GLAZED.

7.3 DOORS AND WINDOWS - ALUMINUM ENTRANCES AND STOREFRONTS (CONT.):

D. ALUMINUM SWING DOORS (REFER TO DRAWINGS):
1. FRAMING:
a. QUALITY STANDARD: EFCO SERIES "D300".
b. SIZE: AS SCHEDULED.
c. STILES & TOP RAILS: 3 1/2" X 1 3/4" X 0.125" THICK, PLUS OR MINUS 0.005, GLAZING STOP SECTION 0.050" WALL THICKNESS.
d. BOTTOM RAIL: 10" MINIMUM X 1 3/4" X 0.125" THICK, PLUS OR MINUS 0.005, GLAZING STOP SECTION 0.050" WALL THICKNESS.
e. GLAZING STOPS:
1). EXTERIOR UNITS: DOUBLE GLAZED, 1" INSULATED UNIT, FROM EXTERIOR SIDE.
2). INTERIOR UNITS: SINGLE GLAZED, ¼" UNIT.
2. DOOR HARDWARE: (REFER TO DRAWING DOOR HARDWARE SCHEDULE).
E. FINISH (REFER TO DRAWINGS):
1. ORGANIC: AA-M12-C42-R1X, KYNAR 500/HYLAR 5000 FLUROPON, IN ACCORDANCE WITH AAMA 605.2. COLOR AS SELECTED FROM MANUFACTURERS STANDARDS AND SCHEDULED ON DRAWINGS.
F. GLAZING (REFER TO DRAWING GLAZING SCHEDULE):
1. GLASS: COMPLY WITH SECTION 08 80 00.
2. GLAZING STOPS: DRY GLAZED, SNAP-IN TYPE EPDM OR NEOPRENE BULB-TYPE, REPLACEABLE, WITH GASKETS ON BOTH INTERIOR AND EXTERIOR SIDES OF GLAZING UNITS. UNITS SHALL BE GLAZED FROM EXTERIOR SIDE.
G. AUXILIARY MATERIALS:
1. GENERAL: PROVIDE ALL OTHER MATERIALS, NOT SPECIFICALLY DESCRIBED BUT REQUIRED FOR A COMPLETE, WEATHER TIGHT, AND PROPER INSTALLATION OF DOORS AND FRAMING SYSTEMS, SUBJECT TO ACCEPTANCE BY THE ARCHITECT.
a. DEFLECTION CHANNELS: AS RECOMMENDED BY SYSTEM MANUFACTURER.
b. CONTINUOUS SILL FLASHING SHEET METAL: 0.040 INCH THICK ALUMINUM SHEET, FINISH TO MATCH MULLION SECTIONS WHERE EXPOSED.
c. COLUMN CLADDING SHEET METAL: 0.040 INCH THICK ALUMINUM SHEET, FINISH TO MATCH MULLION SECTIONS WHERE EXPOSED.
d. THERMAL BARRIER: BARRIER MATERIAL SHALL BE POURED-IN-PLACE TWO PART POLYURETHANE. A NONSTRUCTURAL THERMAL BARRIER IS UNACCEPTABLE.
2. SEALANT: COLORS TO MATCH ALUMINUM FRAMING, UNLESS OTHERWISE INDICATED.

PART 3 - EXECUTION

3.01 INSTALLATION

A. TAKE FIELD MEASUREMENTS BEFORE FABRICATION WHERE POSSIBLE; DO NOT DELAY JOB PROGRESS.
B. INSTALL MATERIALS AND SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. INSTALL MATERIALS AND SYSTEMS IN PROPER RELATION WITH ADJACENT CONSTRUCTION AND WITH UNIFORM APPEARANCE. COORDINATE WITH WORK OF OTHER SECTIONS.
C. ANCHOR SECURELY IN PLACE TO STRUCTURE; INSTALL PLUMB, LEVEL AND IN TRUE ALIGNMENT. ISOLATE DISSIMILAR MATERIALS TO PREVENT CORROSION.
D. COORDINATE WITH GLASS AND GLAZING WORK; INSTALL HARDWARE AND ADJUST FOR SMOOTH PROPER OPERATION.
E. SEAL FRAMES WITH AN APPROVED SEALANT, IN COLOR TO MATCH FRAMES. MAKE A NEAT FULLY WEATHERPROOF JOB.
F. CLEAN AND PROTECT COMPLETED SYSTEM; REPAIR DAMAGE.

7.4 DOORS AND WINDOWS - GLAZING:

PART 1 - GENERAL

1.01 SUMMARY

A. PROVIDE GLAZING AT THE FOLLOWING LOCATIONS WHERE INDICATED:
1. EXTERIOR ENTRANCES AND STOREFRONT.
2. EXTERIOR WINDOWS.
3. INTERIOR WINDOWS AND GLAZED OPENINGS.
4. DOORS.

1.02 SUBMITTALS

A. NONE REQUIRED UNLESS SUBMITTING FOR APPROVED EQUALS.

1.03 QUALITY ASSURANCE

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS, WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. STANDARDS: COMPLY WITH THE PROVISIONS OF THE FOLLOWING SPECIFICATIONS AND STANDARDS, EXCEPT AS OTHERWISE NOTED OR SPECIFIED.
1. ANSI Z97.1, AMERICAN NATIONAL STANDARD FOR GLAZING MATERIALS USED IN BUILDINGS - SAFETY PERFORMANCE SPECIFICATIONS AND METHODS OF TEST.
2. ASCE 7, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
3. ASTM C162-05 (2010), STANDARD TERMINOLOGY OF GLASS AND GLASS PRODUCTS.
4. ASTM C1036-11E1, STANDARD SPECIFICATION FOR FLAT GLASS.
5. ASTM C1048-12E1, STANDARD SPECIFICATION FOR HEAT-TREATED FLAT GLASS - KIND HS, KIND FT COATED AND UNCOATED GLASS.
6. ASTM C1172-09E1, STANDARD SPECIFICATION FOR LAMINATED ARCHITECTURAL FLAT GLASS.
7. ASTM C1249-06A (2010), STANDARD GUIDE FOR SECONDARY SEAL FOR SEALED INSULATING GLASS UNITS FOR STRUCTURAL SEALANT GLAZING APPLICATIONS.
8. ASTM C1376-10, STANDARD SPECIFICATION FOR PYROLITIC AND VACUUM DEPOSITION COATINGS ON FLAT GLASS.
9. ASTM E1996-12A, STANDARD SPECIFICATION FOR PERFORMANCE OF EXTERIOR WINDOWS, CURTAIN WALLS, DOORS, AND IMPACT PROTECTIVE SYSTEMS IMPACTED BY WINDBORNE DEBRIS IN HURRICANES.
10. ASTM E2188-10, STANDARD TEST METHOD FOR INSULATING GLASS UNIT PERFORMANCE.
11. ASTM E2189-10E1, STANDARD TEST METHOD FOR TESTING RESISTANCE TO FOGGING IN INSULATING GLASS UNITS.
12. ASTM E2190-10, STANDARD SPECIFICATION FOR INSULATING GLASS UNIT PERFORMANCE AND EVALUATION.
C. PERFORM WORK IN ACCORDANCE WITH FGMA GLAZING MANUAL, LAMINATORS SAFETY GLASS ASSOCIATION- STANDARDS MANUAL FOR GLAZING INSTALLATION METHODS.

1.04 PERFORMANCE REQUIREMENTS

A. GENERAL: PROVIDE GLASS AND GLAZING CAPABLE OF WITHSTANDING NORMAL THERMAL MOVEMENT, WIND, AND IMPACT LOADS (WHERE APPLICABLE) FOR PROJECT CONDITIONS. WATERTIGHT AND AIRTIGHT INSTALLATION OF EACH GLAZING UNIT IS REQUIRED. EACH INSTALLATION MUST WITHSTAND NORMAL TEMPERATURE CHANGES, STRUCTURAL DESIGN LOADING WITHOUT FAILURE OF ANY KIND INCLUDING LOSS OR BREAKAGE OF GLASS, FAILURE OF SEALANTS OR GASKETS TO REMAIN WATERTIGHT AND AIRTIGHT, DETERIORATION OF GLAZING MATERIALS, AND OTHER DEFECTS IN WORK.
B. DESIGN WIND LOADS: REFER TO DRAWINGS FOR PROJECT APPLICABLE CODES AND STRUCTURAL DESIGN CRITERIA. STRUCTURAL DESIGN OF GLAZING ASSEMBLIES SHALL BE IN ACCORDANCE WITH ASCE 7.
C. PROVIDE SAFETY GLASS (TEMPERED, LAMINATED) COMPLYING WITH REQUIREMENTS OF ANSI Z97.1 AND 16 CFR 1201. LABEL EACH PIECE OF GLASS INDICATING COMPLIANCE WITH REQUIREMENTS. DO NOT REMOVE LABEL PRIOR TO INSTALLATION.

1.05 WARRANTY

A. PROVIDE FIVE YEAR WARRANTY INCLUDING COVERAGE FOR SEALED GLASS UNITS FROM SEAL FAILURE, INTERPANE DUSTING OR MISTING, OR DEFECTS EXCEEDING THOSE ALLOWED BY ASTM 1172-09E1.

7.4 DOORS AND WINDOWS - GLAZING (CONT.):

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. MANUFACTURERS: PPG, AFG INDUSTRIES, CARDINAL, LIBBY OWENS FORD, VIRACON, OR APPROVED EQUAL

2.02 GLASS

A. GENERAL: COMPLY WITH ASTM C1036-11E1, ASTM C1048-12E1, ASTM E2188-10, ASTM E2189-10E1, AND ASTM E2190-10, OF THE TYPES, CLASSES, AND FORMS SPECIFIED.
1. ANNEALED FLOAT GLASS: ASTM C1036-11E1, TYPE I (TRANSPARENT FLAT GLASS), QUALITY Q3; OF CLASS INDICATED.
2. HEAT-TREATED FLOAT GLASS: ASTM C1048-12E1, TYPE I (TRANSPARENT FLAT GLASS), QUALITY Q3; OF CLASS, KIND, AND CONDITION INDICATED.
a. FABRICATION PROCESS: BY HORIZONTAL (ROLLER-HEARTH) PROCESS WITH ROLL-WAVE DISTORTION PARALLEL TO BOTTOM EDGE OF GLASS AS INSTALLED, UNLESS OTHERWISE INDICATED.
b. PROVIDE KIND HS (HEAT-STRENGTHENED) FLOAT GLASS IN PLACE OF ANNEALED FLOAT GLASS WHERE NEEDED TO RESIST THERMAL STRESSES INDUCED BY DIFFERENTIAL SHADING OF INDIVIDUAL GLASS LITES AND TO COMPLY WITH GLASS DESIGN REQUIREMENTS SPECIFIED IN PERFORMANCE REQUIREMENTS.
c. FOR UNCOATED GLASS, COMPLY WITH REQUIREMENTS FOR CONDITION A.
d. FOR COATED VISION GLASS, COMPLY WITH REQUIREMENTS FOR CONDITION C (OTHER UNCOATED GLASS).
e. PROVIDE KIND FT (FULLY TEMPERED) FLOAT GLASS IN PLACE OF ANNEALED OR KIND HS (HEAT-STRENGTHENED) FLOAT GLASS WHERE SAFETY GLASS IS INDICATED OR REQUIRED.
3. TINTED GLASS: ASTM C1036-11E1, FLOAT GLASS OF CLASS, KIND, AND CONDITIONS INDICATED, WITH INTEGRAL MINERAL ADMIXTURE INCORPORATED IN GLASS MATERIAL DURING MANUFACTURING INITIAL MELTING PROCESS RESULTING IN A DEGREE OF COLOR THAT REDUCES BOTH VISUAL AND RADIANT TRANSMITTANCE PERFORMANCE REQUIREMENTS.
4. PYROLYTIC-COATED FLOAT GLASS (REFLECTIVE): ASTM C1376-10, FLOAT GLASS WITH METALLIC-OXIDE COATING APPLIED BY PYROLITIC DEPOSITION PROCESS DURING INITIAL MANUFACTURE, AND COMPLYING WITH OTHER REQUIREMENTS SPECIFIED.
5. SPUTTER-COATED FLOAT GLASS (LOW E): ASTM C1376-10, FLOAT GLASS WITH METALLIC-OXIDE OR NITRIDE COATING DEPOSITED BY VACUUM DEPOSITION PROCESS AFTER MANUFACTURE AND HEAT TREATMENT (IF ANY), AND COMPLYING WITH OTHER REQUIREMENTS SPECIFIED.
6. SPANDREL GLASS: FLOAT GLASS, TYPE SPECIFIED, WITH OPAQUE COLORED CERAMIC COATING ADHERED TO INTERIOR SIDE OF INTERIOR LITE SURFACE BY HEAT-FUSING PROCESS. COATING EQUAL TO ICD "OPACI-COAT-300" IN COLOR TO MATCH ADJACENT GLAZING SYSTEM SPECIFIED, UNLESS OTHERWISE INDICATED.
7. WIRE GLASS: TYPE II, CLASS I (TRANSLUCENT) FORM 1 (WIRED AND POLISHED BOTH SIDES), ¼-INCH THICK WELDED SQUARE MESH.
8. MIRROR GLASS: TYPE 1, CLASS 1 (TRANSPARENT), QUALITY Q2 (MIRROR), WITH SILVER COATING, COPPER PROTECTIVE COATING COMPLYING WITH CS27, AND 2 MIL THICK PAINTING COATING, ¼-INCH THICK.
9. SECURITY GLASS: ONE-WAY VISION (TRANSPARENT) INSIDE WITH CHEMICAL VAPOR DEPOSIT ON ONE SIDE FOR A REFLECTIVE COATING, ¼-INCH THICKNESS, SAFETY TYPE WHERE INDICATED.
10. IMPACT RESISTANT GLASS: TYPES SPECIFIED, HURRICANE RESISTANT, ASTM E1996-12A - LARGE MISSILE, FEMA 361 PERFORMANCE CRITERIA FOR MISSILE IMPACT RESISTANCE (15 LB. WOOD 2X4 TRAVELING AT 100 MPH.). LAMINATED GLASS REINFORCED WITH INTERLAYER POLYCARBONATE OR POLYVINYL BUTRYAL PVB MATERIAL IN THICKNESS AND CONFIGURATION TO MEET IMPACT RESISTANCE DESIGN CRITERIA. INTERLAYER MATERIAL EQUAL TO SOLUTIA "SAFLEX IIIG" OR APPROVED EQUAL.
B. INSULATED-GLASS UNITS, GENERAL: FACTORY-ASSEMBLED UNITS CONSISTING OF SEALED LITES OF GLASS SEPARATED BY A DEHYDRATED INTERSPACE, AND COMPLYING WITH ASTM C1249-06A FOR CLASS CBA UNITS AND THE REQUIREMENTS SPECIFIED.
1. PROVIDE KIND HS (HEAT-STRENGTHENED) FLOAT GLASS IN PLACE OF ANNEALED GLASS WHERE NEEDED TO RESIST THERMAL STRESSES INDUCED BY DIFFERENTIAL SHADING OF INDIVIDUAL LITES AND TO COMPLY WITH GLASS DESIGN REQUIREMENTS SPECIFIED.
2. PROVIDE KIND FT (FULLY TEMPERED) GLASS LITES WHERE SAFETY GLASS IS INDICATED OR REQUIRED.
3. OVERALL UNIT THICKNESS AND THICKNESS OF EACH LITE: DIMENSIONS INDICATED FOR INSULATING-GLASS UNITS ARE NOMINAL AND THE OVERALL THICKNESS OF UNITS ARE MEASURED PERPENDICULARLY FROM OUTER SURFACES OF GLASS LITES AT UNIT'S EDGE.
4. INSULATED UNIT CONSTRUCTION: 1 INCH THICK, COMPOSED OF 1/4" THICK EXTERIOR PANE OF GLASS TYPE SPECIFIED, 1/2 INCH AIR SPACE, AND 1/4 INCH THICK INTERIOR PANE OF GLASS TYPE SPECIFIED. AIR SPACE PURGED DRY HERMETIC AIR. EDGE WITH SEALING SYSTEM.
5. SEALING SYSTEM: COMPLY WITH REQUIREMENTS OF SECTION 07 92 00 - JOINT SEALANTS. DUAL SEAL, WITH PRIMARY AND SECONDARY SEALANTS OF POLYISOBUTYLENE AND SILICONE.
6. SPACER SPECIFICATIONS: MANUFACTURER'S STANDARD SPACER MATERIAL AND CONSTRUCTION COMPLYING WITH THE FOLLOWING REQUIREMENTS:
a. SPACER MATERIAL: ALUMINUM WITH MILL OR CLEAR ANODIC FINISH.
b. DESICCANT: MOLECULAR SIEVE OR SILICA GEL, OR BLEND OF BOTH.
c. CORNER CONSTRUCTION: MANUFACTURER'S STANDARD CORNER CONSTRUCTION.
7. SEALED INSULATING GLASS UNIT SURFACE DESIGNATIONS:
a. SURFACE 1: EXTERIOR SURFACE OF THE OUTER GLASS LITE.
b. SURFACE 2: INTERSPACE SURFACE OF THE OUTER GLASS LITE.
c. SURFACE 3: INTERSPACE SURFACE OF THE INNER GLASS LITE.
d. SURFACE 4: INTERIOR SURFACE OF THE INNER GLASS LITE.

2.03 GLAZING SCHEDULE

A. SCHEDULE: REFER TO DRAWING GLAZING SCHEDULE FOR TYPES, COMBINATIONS AND LOCATIONS.

2.04 GLAZING MATERIALS

A. PROVIDE MATERIALS WITH PROVEN RECORD OF COMPATIBILITY WITH SURFACES CONTACTED IN INSTALLATION.
B. GLAZING SEALANTS: ELASTOMERIC TYPE. TREMCO "PROGLAZE". BOSTIK "CHEM-CALK 1200", PECORA "836", SONNEBORN "OMNIGLAZE", OR OTHER APPROVED BY SYSTEM MANUFACTURER.
C. GLAZING TAPE: PREFORMED TYPE. BOSTIK "CHEM TAPE 60", PECORA "SHIM-SEAL", OR TREMCO "PRE-SHIMMED TREMCO 440 TAPE".
D. SETTING BLOCKS: NEOPRENE OR OTHER RESILIENT BLOCKS OF 70 TO 90 SHORE A DUROMETER HARDNESS, ADHESIVELY BACKED ON ONE FACE ONLY, TESTED FOR COMPATIBILITY WITH SPECIFIED GLAZING SEALANTS.
E. SPACERS: NEOPRENE OR OTHER RESILIENT BLOCKS OF 40 TO 50 SHORE A DUROMETER HARDNESS, TESTED FOR COMPATIBILITY WITH SPECIFIED GLAZING SEALANT.
F. COMPRESSIBLE FILLER ROD: CLOSED-CELL OR WATERPROOF-JACKETED FOAM OF POLYETHYLENE, BUTYL RUBBER, NEOPRENE, POLYURETHANE OR VINYL, TESTED FOR COMPATIBILITY WITH SPECIFIED GLAZING SEALANTS, OF 5 TO 10 PSI COMPRESSION STRENGTH (25% DEFLECTION), RECOMMENDED BY SEALANT MANUFACTURER FOR USE IN GLAZING CHANNEL TO PREVENT SEALANT EXUDATION FROM THE CHANNEL.

PART 3 - EXECUTION

3.01 INSTALLATION

A. COMPLY WITH FGMA "GLAZING MANUAL" AND MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. USE MANUFACTURERS RECOMMENDED SPACERS, BLOCKS, PRIMERS, SEALERS, GASKETS AND ACCESSORIES.
B. CLEAN CHANNEL SURFACES AND PRIME AS RECOMMENDED BY SEALANT MANUFACTURER.
C. CUT GLASS TO SIZE AS REQUIRED FOR MEASURED OPENING, PROVIDE ADEQUATE EDGE CLEARANCE AND GLASS BITE ALL AROUND. CUT PRIOR TO TEMPERING.
D. DO NOT INSTALL SHEETS WHICH HAVE EDGE DAMAGE OR FACE IMPERFECTIONS. INSTALL GLASS WITH UNIFORMITY OF PATTERN, DRAW, BOW, AND ROLLER MARKS.
E. MITER-CUT AND BOND (WELD) ENDS OF CHANNEL GASKETS AT CORNERS TO PROVIDE A CONTINUOUS GASKET.
F. INSTALL SEALANTS TO PROVIDE COMPLETE WETTING AND BOND AND TO CREATE A SUBSTANTIAL WASH AWAY FROM GLASS.
G. SEAL FACE GASKETS AT CORNERS WITH LIQUID ELASTOMERIC SEALANT TO CLOSE OPENINGS AND PREVENT WITHDRAWAL OF GASKETS FROM CORNERS.
H. REMOVE AND REPLACE DAMAGED GLASS AND GLAZING. WASH, POLISH AND PROTECT ALL GLASS SUPPLIED UNDER THIS SECTION.

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ARCHITECTURAL GENERAL SPECIFICATIONS

COMMONWEALTH OF VIRGINIA
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ARCHITECT
10/17/18
Mark S. Bromeier
License #015841
Exp. Date: 11/30/19
Professional of Record

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DATE:	10-17-2018
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AS1.6

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