

**SECTION 07 84 13.16A
FIRE-RESISTIVE JOINT SYSTEMS**

1.1 GENERAL

1.01 REFERENCE STANDARDS

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.
- B. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components; 2025.
- C. UL 2079 - Standard for Tests for Fire Resistance of Building Joint Systems; Current Edition, Including All Revisions.

DESCRIPTION OF WORK:

THIS SPECIFICATION COVERS THE FURNISHING AND INSTALLATION OF MATERIALS FOR FIRE-RESISTIVE JOINT SYSTEMS. PRODUCTS SHALL BE AS FOLLOWS OR AS DIRECTED BY THE OWNER. INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S RECOMMENDATIONS. DEMOLITION AND REMOVAL OF MATERIALS SHALL BE AS REQUIRED TO SUPPORT THE WORK.

SUMMARY

THIS SECTION INCLUDES FIRE-RESISTIVE JOINT SYSTEMS FOR THE FOLLOWING:

FLOOR-TO-FLOOR JOINTS.

FLOOR-TO-WALL JOINTS.

HEAD-OF-WALL JOINTS.

WALL-TO-WALL JOINTS.

PERIMETER FIRE-RESISTIVE JOINT SYSTEMS CONSISTING OF FLOOR-TO-WALL JOINTS BETWEEN PERIMETER EDGE OF FIRE-RESISTANCE-RATED FLOOR ASSEMBLIES AND EXTERIOR CURTAIN WALLS.

PERFORMANCE REQUIREMENTS

GENERAL: PROVIDE FIRE-RESISTIVE JOINT SYSTEMS THAT ARE PRODUCED AND INSTALLED TO RESIST SPREAD OF FIRE ACCORDING TO REQUIREMENTS INDICATED, RESIST PASSAGE OF SMOKE AND OTHER GASES, AND MAINTAIN ORIGINAL FIRE-RESISTANCE RATING OF ASSEMBLY IN WHICH FIRE-RESISTIVE JOINT SYSTEMS ARE INSTALLED.

JOINT SYSTEMS IN AND BETWEEN FIRE-RESISTANCE-RATED CONSTRUCTIONS: PROVIDE SYSTEMS WITH ASSEMBLY RATINGS EQUALING OR EXCEEDING THE FIRE-RESISTANCE RATINGS OF CONSTRUCTION THAT THEY JOIN, AND WITH MOVEMENT CAPABILITIES AND L-RATINGS INDICATED AS DETERMINED BY UL 2079.

LOAD-BEARING CAPABILITIES AS DETERMINED BY EVALUATION DURING THE TIME OF TEST.

PERIMETER FIRE-RESISTIVE JOINT SYSTEMS: FOR JOINTS BETWEEN EDGES OF FIRE-RESISTANCE-RATED FLOOR ASSEMBLIES AND EXTERIOR CURTAIN WALLS, PROVIDE SYSTEMS OF TYPE AND WITH RATINGS INDICATED BELOW AND THOSE INDICATED IN THE FIRE-RESISTIVE JOINT SYSTEM SCHEDULE AT THE END OF PART 1.3, AS DETERMINED BY IBC STANDARD OR NFPA 285, AS DIRECTED, AND UL 2079.

UL-LISTED, PERIMETER FIRE-CONTAINMENT SYSTEMS: INTEGRITY RATINGS EQUALING OR EXCEEDING FIRE-RESISTANCE RATINGS OF FLOOR OR FLOOR/CEILING ASSEMBLY FORMING ONE SIDE OF JOINT.

OPL-LISTED, PERIMETER FIRE-BARRIER SYSTEMS: F-RATINGS EQUALING OR EXCEEDING FIRE RESISTANCE RATINGS OF FLOOR OR FLOOR/CEILING ASSEMBLY FORMING ONE SIDE OF JOINT.

FOR FIRE-RESISTIVE SYSTEMS EXPOSED TO VIEW, PROVIDE PRODUCTS WITH FLAME-SPREAD AND SMOKE DEVELOPED INDEXES OF LESS THAN 25 AND 450, RESPECTIVELY, AS DETERMINED PER ASTM E84.

SUBMITTALS

PRODUCT DATA: FOR EACH PRODUCT INDICATED.

SHOP DRAWINGS: FOR EACH FIRE-RESISTIVE JOINT SYSTEM.

QUALIFICATION DATA: FOR INSTALLER.

FIELD QUALITY-CONTROL TEST REPORTS.

EVALUATION REPORTS: EVIDENCE OF FIRE-RESISTIVE JOINT SYSTEMS' COMPLIANCE WITH ICBO ES AC30, FROM THE ICBO EVALUATION SERVICE.

RESEARCH/EVALUATION REPORTS: FOR EACH TYPE OF FIRE-RESISTIVE JOINT SYSTEM.

QUALITY ASSURANCE

INSTALLER QUALIFICATIONS: A FIRM THAT HAS BEEN APPROVED BY FMG ACCORDING TO FMG 4991, "APPROVAL OF FIRESTOP CONTRACTORS."

INSTALLATION RESPONSIBILITY: ASSIGN INSTALLATION OF THROUGH-PENETRATION FIRESTOP SYSTEMS AND FIRE RESISTIVE JOINT SYSTEMS IN PROJECT TO A SINGLE QUALIFIED INSTALLER.

FIRE-TEST-RESPONSE CHARACTERISTICS: PROVIDE FIRE-RESISTIVE JOINT SYSTEMS THAT COMPLY WITH THE FOLLOWING REQUIREMENTS AND THOSE SPECIFIED IN PART 1 "PERFORMANCE REQUIREMENTS"

FIRE-RESISTANCE TESTS ARE PERFORMED BY A QUALIFIED TESTING AND INSPECTING AGENCY. A QUALIFIED TESTING AND INSPECTING AGENCY IS UL OR OPL, AS DIRECTED, OR ANOTHER AGENCY PERFORMING TESTING AND FOLLOW-UP INSPECTION SERVICES FOR FIRE-RESISTIVE JOINT SYSTEMS ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

FIRE-RESISTIVE JOINT SYSTEMS ARE IDENTICAL TO THOSE TESTED PER METHODS INDICATED IN PART 1 "PERFORMANCE REQUIREMENTS" ARTICLE AND COMPLY WITH THE FOLLOWING:

FIRE-RESISTIVE JOINT SYSTEM PRODUCTS BEAR CLASSIFICATION MARKING OF QUALIFIED TESTING AND INSPECTING AGENCY.

FIRE-RESISTIVE JOINT SYSTEMS CORRESPOND TO THOSE INDICATED BY REFERENCING SYSTEM DESIGNATIONS OF THE QUALIFIED TESTING AND INSPECTING AGENCY.

COORDINATE CONSTRUCTION OF JOINTS TO ENSURE THAT FIRE-RESISTIVE JOINT SYSTEMS ARE INSTALLED ACCORDING TO SPECIFIED REQUIREMENTS.

DO NOT COVER UP FIRE-RESISTIVE JOINT SYSTEM INSTALLATIONS THAT WILL BECOME CONCEALED BEHIND OTHER CONSTRUCTION UNTIL INSPECTING AGENCY AND BUILDING INSPECTOR OF AUTHORITIES HAVING JURISDICTION HAVE EXAMINED EACH INSTALLATION.

F. DELIVERY, STORAGE, AND HANDLING

DELIVER FIRE-RESISTIVE JOINT SYSTEM PRODUCTS TO PROJECT SITE IN ORIGINAL, UNOPENED CONTAINERS OR PACKAGES WITH QUALIFIED TESTING AND INSPECTING AGENCY'S CLASSIFICATION MARKING APPLICABLE TO PROJECT AND WITH INTACT AND LEGIBLE MANUFACTURERS' LABELS IDENTIFYING PRODUCT AND MANUFACTURER, DATE OF MANUFACTURE, LOT NUMBER, SHELF LIFE, CURING TIME, AND MIXING INSTRUCTIONS FOR MULTICOMPONENT MATERIALS.

STORE AND HANDLE MATERIALS FOR FIRE-RESISTIVE JOINT SYSTEMS TO PREVENT THEIR DETERIORATION OR DAMAGE DUE TO MOISTURE, TEMPERATURE CHANGES, CONTAMINANTS, OR OTHER CAUSES.

1.2 PRODUCTS

A. FIRE-RESISTIVE JOINT SYSTEMS

COMPATIBILITY: PROVIDE FIRE-RESISTIVE JOINT SYSTEMS THAT ARE COMPATIBLE WITH JOINT SUBSTRATES, UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY FIRE-RESISTIVE JOINT SYSTEM MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.

ACCESSORIES: PROVIDE COMPONENTS OF FIRE-RESISTIVE JOINT SYSTEMS, INCLUDING PRIMERS AND FORMING MATERIALS, THAT ARE NEEDED TO INSTALL FILL MATERIALS AND TO COMPLY WITH PART 1 "PERFORMANCE REQUIREMENTS" ARTICLE. USE ONLY COMPONENTS SPECIFIED BY FIRE-RESISTIVE JOINT SYSTEM MANUFACTURER AND APPROVED BY THE QUALIFIED TESTING AND INSPECTING AGENCY FOR SYSTEMS INDICATED.

1.3 EXECUTION

INSTALLATION

INSTALL FIRE-RESISTIVE JOINT SYSTEMS TO COMPLY WITH PART 1.1 "PERFORMANCE REQUIREMENTS" ARTICLE AND FIRE-RESISTIVE JOINT SYSTEM MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PRODUCTS AND APPLICATIONS INDICATED.

FOR FILL MATERIALS THAT WILL REMAIN EXPOSED AFTER COMPLETING WORK, FINISH TO PRODUCE SMOOTH, UNIFORM SURFACES THAT ARE FLUSH WITH ADJOINING FINISHES.

FIELD QUALITY CONTROL

INSPECTING AGENCY: ENGAGE A QUALIFIED INDEPENDENT INSPECTING AGENCY TO INSPECT FIRE-RESISTIVE JOINT SYSTEMS AND PREPARE INSPECTION REPORTS.

2. TESTING SERVICES: INSPECTING OF COMPLETED INSTALLATIONS OF FIRE-RESISTIVE JOINT SYSTEMS SHALL TAKE PLACE IN SUCCESSIVE STAGES AS INSTALLATION OF FIRE-RESISTIVE JOINT SYSTEMS PROCEEDS. DO NOT PROCEED WITH INSTALLATION OF JOINT SYSTEMS FOR THE NEXT AREA UNTIL INSPECTING AGENCY DETERMINES COMPLETED WORK SHOWS COMPLIANCE WITH REQUIREMENTS.

A. INSPECTING AGENCY SHALL STATE IN EACH REPORT WHETHER INSPECTED FIRE-RESISTIVE JOINT SYSTEMS COMPLY WITH OR DEVIATE FROM REQUIREMENTS.

REMOVE AND REPLACE FIRE-RESISTIVE JOINT SYSTEMS WHERE INSPECTIONS INDICATE THAT THEY DO NOT COMPLY WITH SPECIFIED REQUIREMENTS.

PROCEED WITH ENCLOSING FIRE-RESISTIVE JOINT SYSTEMS WITH OTHER CONSTRUCTION ONLY AFTER INSPECTION REPORTS ARE ISSUED AND FIRE-RESISTIVE JOINT SYSTEMS COMPLY WITH REQUIREMENTS.

FIRE-RESISTIVE JOINT SYSTEM SCHEDULE

DESIGNATION SYSTEM FOR JOINTS IN OR BETWEEN FIRE-RESISTANCE-RATED CONSTRUCTIONS: ALPHANUMERIC SYSTEMS LISTED IN UL'S "FIRE RESISTANCE DIRECTORY" UNDER PRODUCT CATEGORY XHBN.

DESIGNATION SYSTEM FOR JOINTS AT THE INTERSECTION OF FIRE-RESISTANCE-RATED FLOOR OR FLOOR/CEILING ASSEMBLY AND AN EXTERIOR CURTAIN-WALL ASSEMBLY: ALPHANUMERIC SYSTEMS LISTED IN UL'S "FIRE RESISTANCE DIRECTORY" UNDER PRODUCT CATEGORY XHDG OR OPL'S "DIRECTORY OF LISTED BUILDING PRODUCTS, MATERIALS, & ASSEMBLIES" AS PERIMETER FIRE-BARRIER SYSTEMS, AS DIRECTED.

END OF SECTION 07 84 13.16A