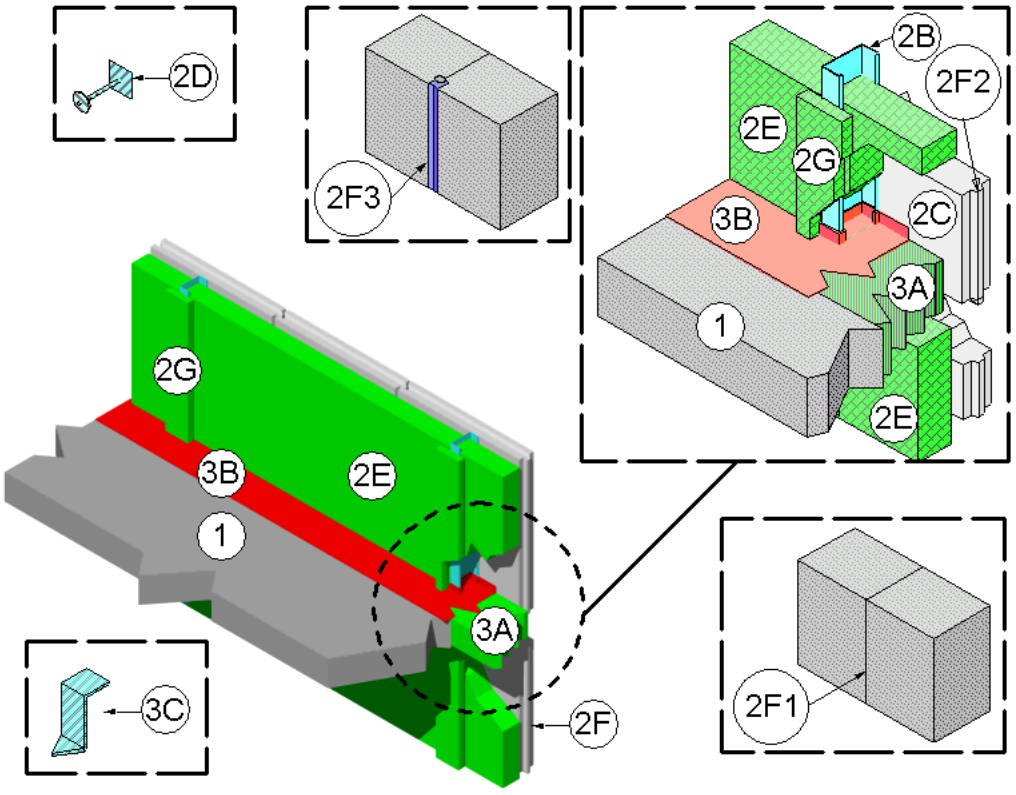
Design Number 3MU/JS 120-05
(Formerly OPL Design No. CEJ 119 P)
PERIMETER FIRE BARRIERS
3M Company
FireDam™ Spray 200, Fire Barrier 1000 NS Silicone Sealant and
Fire Barrier 1003 SL Silicone Sealant
ASTM E 2307
T-Rating Refer to Compression Percentage
F-Rating 2 hr
ASTM E 2307/ASTM E 1399 Cycling
Class IV: 500 cycles @ 30 cpm
Rated for ± 16.7% horizontal movement @ 50% Compression (Reference Item 3A): T-Rating 1/4 hr
Rated for ± 11% horizontal movement @ 33% Compression (Reference Item 3A): T-Rating 0 hr
Rated for ± 5% horizontal movement @ 20% Compression (Reference Item 3A): T-Rating 0 hr
Rated for ± 6.25% vertical shear movement @ 50% Compression (Reference Item 3A)
UL 2079
L-Rating <1.0 SCFM/LF



1. CONCRETE FLOOR ASSEMBLY: Two-hour rated concrete floor assembly made from either lightweight or normal weight concrete with a density of 100 to 150 pcf, having a minimum thickness of 4-1/2" at the joint face. When a longitudinal recess (blockout) is required to contain an architectural joint system, increase concrete floor assembly thickness to maintain a minimum thickness of 4-1/2" and accommodate

depth of blockout formed in the concrete: blockout width unrestricted.

2. CURTAIN WALL ASSEMBLY: Incorporate the following construction features:
   A. Mounting Attachment: (Not shown) Attach steel stud framing (Item 2B) to the structural framing according to the curtain wall manufacturer's instructions. When required, connect the mounting attachments to the joint face of the concrete floor assembly (Item 1) according to the curtain wall manufacturer's instructions. Limit distance between mounting attachments to maximum 120".
   B. Steel Stud Framing: Use minimum 3-5/8" by 1-5/8", 18 GA, C-shaped steel studs as interior vertical framing. Attach according to the curtain wall system manufacturer's guidelines. Limit distance between steel stud framing to maximum 60". When required, install horizontal steel stud framing members according to the curtain wall system manufacturer's guidelines and, in the spandrel area, locate a minimum of 33" above the top surface of the concrete floor assembly (Item 1).
   C. Concrete Panels: Use any non-combustible exterior concrete based panels. Use minimum 1-1/2" thick, 12" high, 12" long panels. Attach concrete panels to steel stud framing (Item 2B) according to the curtain wall system manufacturer's requirements.
   D. Impaling Pins: (Optional) Use, locate, size, and install impaling pins according to the curtain wall system manufacturer's guidelines.
   E. Curtain Wall Insulation: (Optional) When used, install either mineral wool or fiberglass batt curtain wall insulation after the perimeter joint protection (Item 3) without deforming it. Attach curtain wall insulation to steel stud framing (Item 2B) by friction fit or mechanical fasteners.
   F. Concrete Panel Joint: No through joints allowed. When required, the surface of the concrete panel joints can be sealed with gaskets or sealants. Use one of the following for vertical and horizontal concrete panel joints:
      I. flush type (butt joint) (Item 2F1),
      II. key way type (tongue and groove) (Item 2F2), or
      III. recessed (Item 2F3).
   G. Framing Covers: (Optional) When used, locate, size, and install framing covers according to the curtain wall system manufacturer's guidelines. Do not pass framing covers through the perimeter joint protection (Item 3). Allow framing covers to abut top and bottom surfaces of the perimeter joint protection (Item 3) provided that no deformation occurs.
   H. Glass Vision Panels: (Optional) When used, locate glass vision panels above spandrel area and a minimum 33" above the top surface of the concrete floor assembly (Item 1). Install glass vision panels to window framing (Item 2I) according to manufacturer's guidelines. Use a minimum 1/4" thick, clear tempered glass with maximum width and height width and height as determined by the window framing (Item 2I).
   I. Window Gaskets: When glass vision panels (Item 2G) used, use a thermal break (thermo-set rubber extrusion) to secure glass vision panels (Item 2G).
   J. Window Framing: When glass vision panels used, use steel framing members a minimum 3-5/8" by 1-5/8", 18 GA steel, U-shaped channel or similar construction compatible with structural framing (Item 2B). Locate window framing at least 33" above the top surface of the concrete floor assembly (Item 1).
3. PERIMETER JOINT PROTECTION: Do not exceed an 8" nominal joint width (joint width at installation). Incorporate the following construction features for the perimeter joint protection (also known as perimeter fire barrier system):
   A. Packing Material: Use a minimum 4" thick, 4-pcf density, mineral wool batt insulation installed with the

fibers running parallel to the edge of concrete floor assembly (Item 1) and curtain wall assembly (Item 2). Cut packing material width to achieve required compression, refer below, when installed in the nominal joint width. Compress the packing material into the perimeter joint. Tightly compress together splices (butt joints) in the lengths of packing material by using minimum 1/4" compression per piece of packing material. Use only Intertek certified products meeting the above minimum requirements. When a spray coating is used, locate the top surface of the packing material flush with the top surface of the concrete floor assembly (Item 1). When the non-sag or self leveling silicone sealant is used, recess the top surface of the packing material 1/4" from the top surface of the concrete floor assembly (Item 1). Use only Intertek certified products meeting the above minimum requirements.

I. When 50% compression is required cut the width of the packing material 2 times wider than the nominal joint width.
II. When 33% compression is required cut the width of the packing material 1.5 times wider than the nominal joint width.
III. When 20% compression is required cut the width of the packing material 1.25 times wider than the nominal joint width.

B. CERTIFIED MANUFACTURER: 3M Company

CERTIFIED PRODUCT: FireDam™ or Fire Barrier™

MODEL: FD Spray 200 (Elastomeric, Sprayable) or FB 1000 N/S Silicone Sealant (Non-sag) or FB 1003 S/L (Self Leveling) Sealant

Fill, Void or Cavity Material: Apply either spray coating or non-sag or self leveling silicone sealant over the packing material (Item 3A) as follows:

Spray Coating – Spray apply the liquid to cover the exposed top surface of the packing material (Item 3A) compressed and installed in the perimeter joint. Apply a minimum wet film thickness of 1/8" and overlap the spray coating a minimum 1/2" onto the adjacent curtain wall assembly (Item 2) and concrete floor assembly (Item 1). When the spraying process is stopped and the applied spray coating cures to an elastomeric film before installation process is restarted, then overlap the edge of the cured spray coating at least 1/8" with the liquid spray coating.

Sealant – Apply non-sag or self leveling sealant to cover the exposed surface of the packing material (Item 3A) compressed and installed in the perimeter joint. Apply minimum 1/4" thickness non-sag or self leveling sealant over the packing material (Item 3A) and finish flush with the top surface of the concrete floor assembly (Item 1).

C. Support Clips: (Optional) Recommended for installations subject to vertical shear movement. Use standard 20 GA galvanized steel Z-shaped clips having the following nominal dimensions: 1" wide by 3" high with a 2" upper leg and a 3" lower leg.