



MODEL MCCD (MAX. 24" X 24") INSTALLATION INSTRUCTIONS FOR INSTALLATION IN STEEL DUCT DROPS WITH SURFACE-MOUNTED STEEL DIFFUSERS



UL CLASSIFIED
(SEE COMPLETE MARKING
ON PRODUCT)



Type MCCD ceiling dampers are for use in lieu of the hinged-blade, sheet metal damper in steel ducts as specified in the Design Information Section-General and in the individual floor or roof-ceiling design(s) being used, as illustrated and described in the current UL Fire Resistance Directory.

Metal-Fab, Inc. ceiling radiation dampers are classified for all UL Fire Resistant Floor-Ceiling and Roof-Ceiling Designs in the UL Fire Resistance Directory that utilize a hinged type damper in the design. The classified UL assemblies are rated for three (3) hours or less and construction materials include gypsum wallboard and acoustical panels (Lay-in tiles). Refer to the UL Fire Resistance Directory for specific design information.

Metal-Fab, Inc. ceiling radiation dampers are unrestricted in the type of transition incorporated between the damper and supply air or return air duct systems. It is acceptable to attach the duct, rigid metal sleeve (plenum or boot) or flexible, directly to the damper. Refer to the UL Fire Resistance Directory for specific design information (See FIG. 1).

Installation will require:

1. #16 GA., 1-1/2" Steel Channels with 9/16" flanges.
2. #12 S.W.G. Galv. Steel Hanger Wire.
3. #10 x 3/4" Steel Sheet Metal Screws.

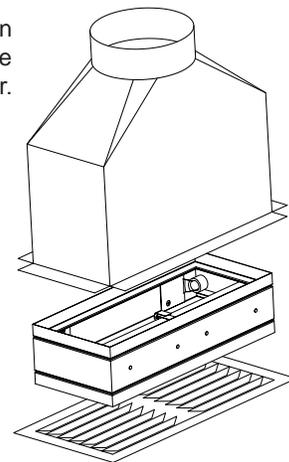


FIG. 1

INSTRUCTIONS:

1. Ceiling Damper to be installed in square or rectangular duct drop with fasteners (#3 above), minimum two per side and not over 6" O.C. (See FIG. 2). Damper shall be close to the back of ceiling membrane with the distance from bottom of damper frame to face of ceiling not more than 1-1/2". Ceiling Damper shall be installed with closing direction in line with longitudinal direction of duct.

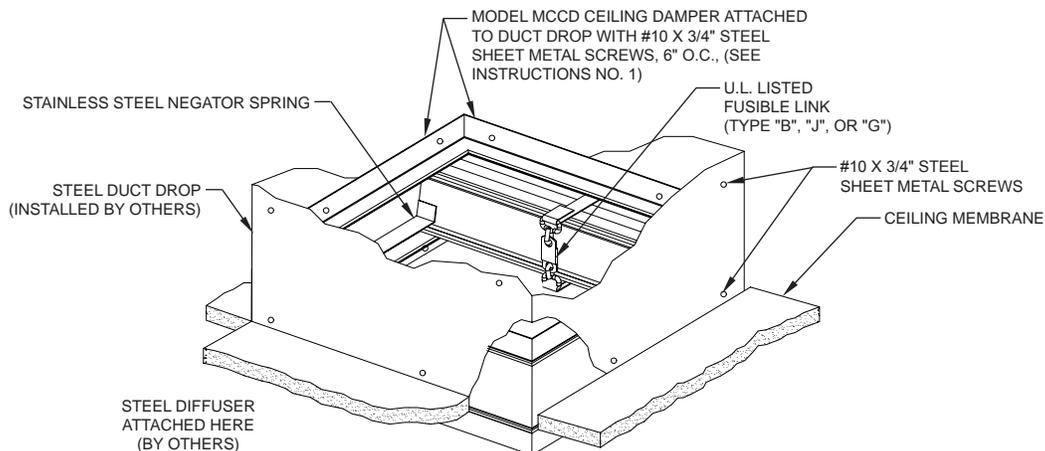
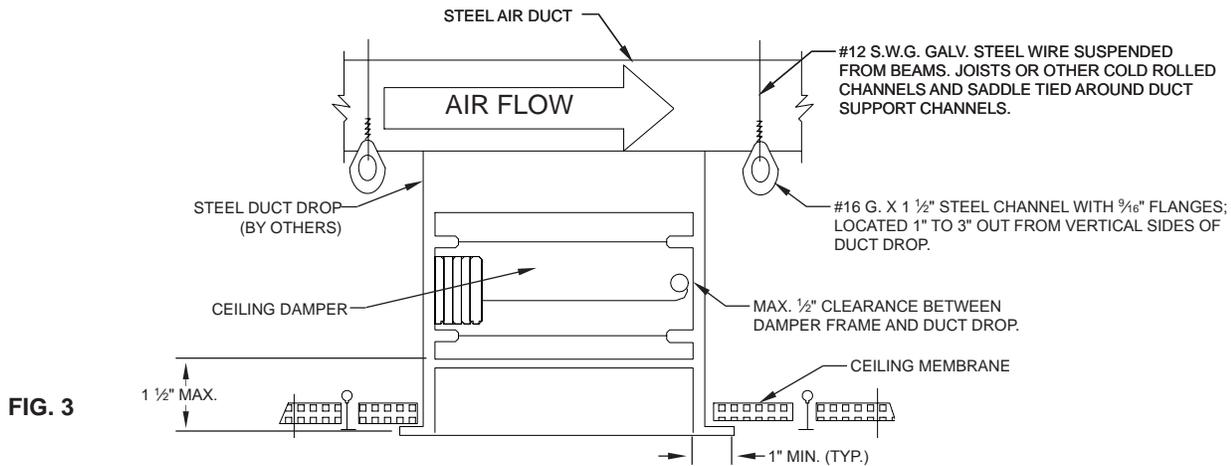


FIG. 2

2. Channel duct supports to be placed under horizontal duct, approximately 1" to 3" from vertical sides of duct drop (See FIG. 3). Channels shall be extend 4" to 6" beyond sides of horizontal duct and be spaced a maximum of 48" O.C. between duct drops.



3. Channels shall be suspended from joists with hanger wires tied at each end of channel forming trapeze-type supports.
4. Duct outlets shall be located in the ceiling membrane but where it is necessary to cut a main runner or cross tee, each cut end shall be supported by a vertical #12 S.W.G. Hanger Wire. A 1/2" clearance shall be maintained between the duct outlet and each cut end of main runner or cross tee. The duct outlet shall be located so that no more than one main runner or cross tee is cut when penetrating the ceiling membrane.
5. Steel Diffuser to be attached to the square duct drop with fasteners (#3 above), uniformly spaced not over 6" on center (minimum 3 per side). Diffuser to provide a minimum 1" support for ceiling membrane. Size of hole cut for passage of duct drop shall be no more than 1" larger than the duct drop.

MODEL MCCD1 (MAX. 12" X 12") INSTALLATION INSTRUCTION FOR INSTALLATION AT BOTTOM OF 12" SQUARE STEEL DUCT DROP AND USING STEEL LAY-IN DIFFUSER.

Type MCCD1 ceiling dampers are for use in lieu of the hinged-blade, sheet metal ceiling damper in steel ducts as specified in the Design Information Section-General and in the individual floor or roof-ceiling design(s) being used as illustrated and described in the current UL Fire Resistance Directory.

Installation will require:

1. #16 GA., 1-1/2" Steel Channels with 1/2" or 9/16" flanges.
2. #12 S.W.G. Galv. Steel Hanger Wire and #18 S.W.G. Steel Tie Wire.
3. #10 x 2/3" Steel Sheet Metal Screws.
4. 24" x 24" Lay-in Steel Diffuser, 4-1/2" overall height with 8" diameter inlet.
5. Thermal Blanket – (UL Classified accessory to Model MCCD1 damper).

INSTRUCTIONS

1. The 12" x 12" duct drop must be centered over the 24" x 24" ceiling grid opening and cut to a height of 3-1/2" above the face of the ceiling.
2. The damper shall be installed with the "C" pan flush with the bottom of the duct drop and attached on each side to the drop through the upper flange of the damper frame with two fasteners (#3 above).
3. The 8" diameter opening of the diffuser housing shall then be slipped over the collar of the "C" pan and rested on the flanges of the ceiling suspension system grid. The overlapping collars of the "C" pan and the diffuser housing shall be attached to each other with four fasteners (#3 above), equally spaced.
4. Channels shall be suspended from joists with hanger wires tied at each end of channel forming trapeze-type supports.
5. The TB5000 (#5 above) shall be cut into four 10" x 24" pieces and placed over the top of the diffuser housing against the web of the suspension system tees, as shown on the enclosed sketch (plan view, FIG. 5). The pieces of blanket must cover the entire area of the diffuser housing and be tied together at the overlaps near the corner of the duct drop with steel tie wire (#3 above), or staples may be used at the four corners (plan view, FIG. 5); this is to insure that they will not come apart or slide down and expose the diffuser housing when subject to periodic vibrations over extended periods of time.
6. Install the diffuser insert into the diffuser housing and secure in place (preferably with steel screws).
7. If possible, the midpoint of the cross tees adjacent to the diffuser shall be supported directly from the structural members of the floor or roof by vertical (not splayed) hanger wires. Otherwise, the four intersections of the cross tees and main runners at the corners of the grid module containing the diffuser shall be so supported.

When the duct extends over the intersections of the grid members, supplementary steel channels (#1 above) shall be used, as shown on FIG. 4, to insure that the grid is supported from the structural members by vertical hanger wires (not splayed).

MODEL MCCD1 AND THERMAL BLANKET INSTALLATION INSTRUCTION

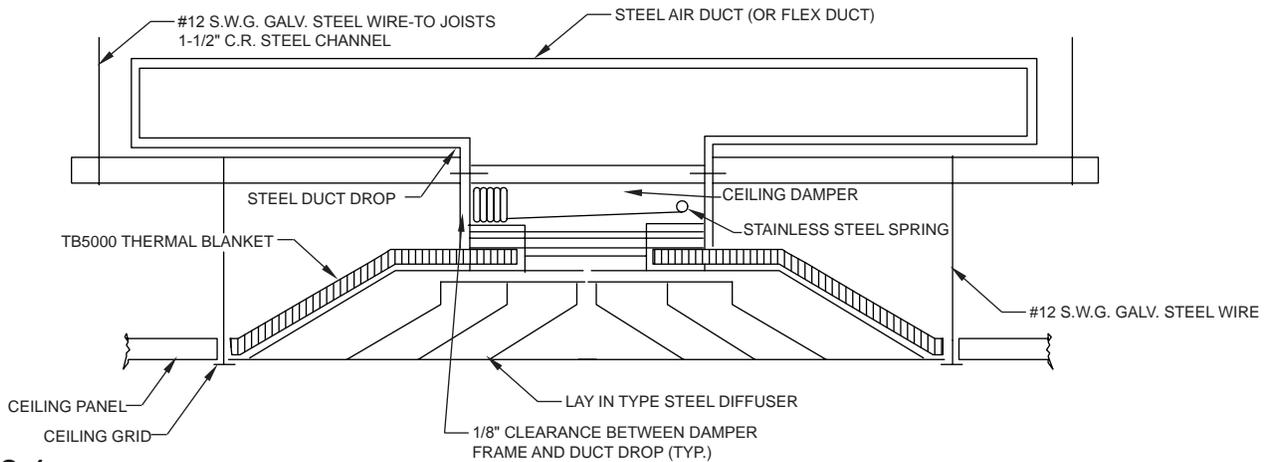


FIG. 4

NOTES:

1. Cut Thermal Blanket into four 24" L x 10" W strips and lay across backside (I.E. upper surface) of Lay-in type diffuser. Blanket shall be tied together with tie wire at top or stapled at four corners to secure in place. Also see plan view for stapling detail.
2. When width of duct is less than 24" and duct is centered between grid members, the C.R. steel channels for support of ceiling grid may be omitted and the hanger wires tied directly to joists or beams.

MODEL MCCD1 AND THERMAL BLANKET INSTALLATION PLAN VIEW

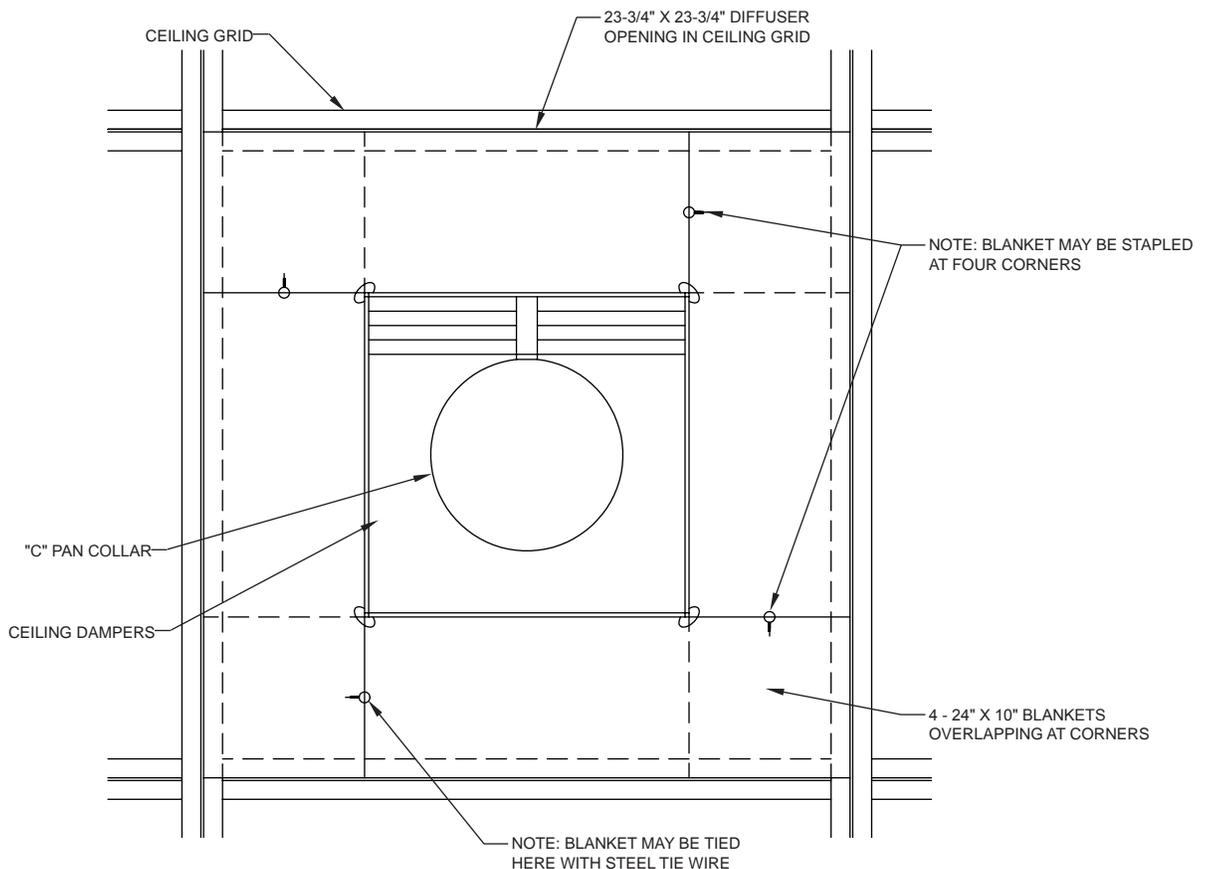


FIG. 5

ALTERNATE MODEL MCCD1 AND THERMAL BLANKET INSTALLATION INSTRUCTION

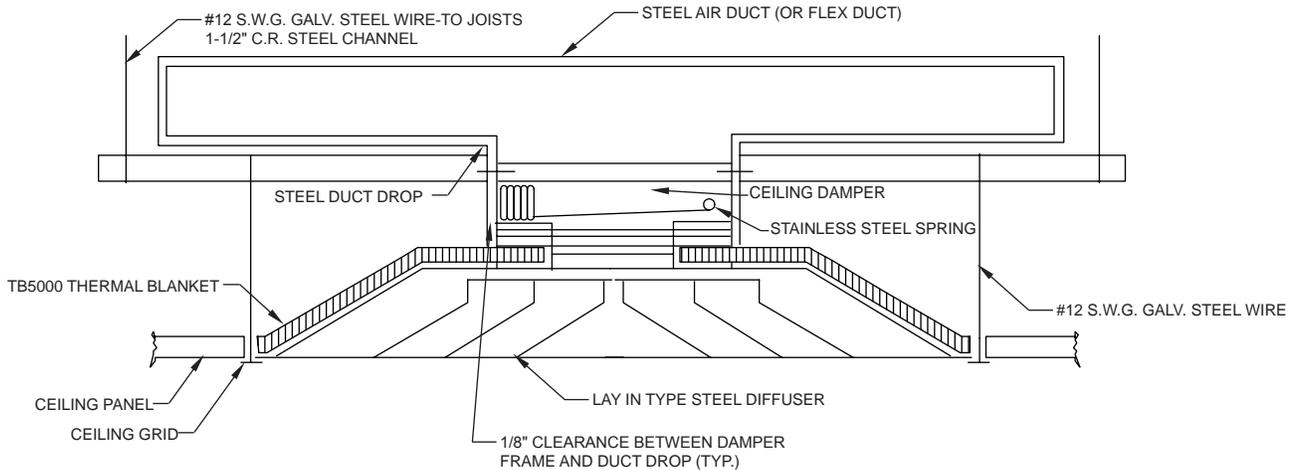


FIG. 6

* The Thermal Blanket shall be centered over the diffuser back and placed over the diffuser neck as show above. The blanket must cover the entire area of the diffuser housing – therefore the blanket must be placed squarely over the diffuser; i.e. the edges of the thermal blanket must be parallel (and directly above) the corresponding edges of the diffuser.

UL CLASSIFIED CEILING DAMPER MODEL MCCD2 (MAX. 24" X 24") INSTALLATION INSTRUCTIONS FOR ATTACHING TO BOTTOM OF STEEL DUCT DROP AND USING SURFACE-MOUNTED STEEL DIFFUSERS.

Type MCCD2 ceiling dampers are for use in lieu of the hinged-blade, sheet metal ceiling damper in steel ducts as specified in the Design Information Section-General and in the individual floor or roof-ceiling design(s) being used, as illustrated and described in the current UL Fire Resistance Directory.

Installation will require:

1. #16 GA. 1 1/2" Steel Channels with 1/2" or 9/16" flanges.
2. #12 S.W.G. Galv. Steel Hanger Wire
3. #10 x 3/4" Steel Sheet Metal Screws.
4. 3/16" diameter by 3/4" long steel bolts and nuts.

INSTRUCTIONS

1. Damper shall be installed close to the back of the ceiling membrane with the distance from face of ceiling to the quilted fabric curtain not to exceed 3". (In closed position, the curtain shall rest on top of the lower track of damper frame). The closing direction of damper shall be in line with the longitudinal direction of duct.
2. The damper shall be supported by two steel channels (See FIG. 7), one channel on each side of damper perpendicular to duct direction (See FIG. 7). Each channel shall be approximately 12" longer than the width of the duct, but extending beyond the location of the structural members above, and be hung near each end by a vertical, (not splayed), hanger wire, (See FIG. 7), from the structural members. Each channel shall be bolted to the upper end of damper frame and the "C" pan, with the steel bolts and nuts (See FIG. 7). Minimum of two bolts and spaced not more than 6" O.C. shall be used.
3. The collar of the upper "C" pan shall be attached to the round duct drop with a minimum of three steel screws (See FIG. 7), uniformly spaced.

4. Duct outlets should be located in the field of the ceiling membrane but where it is necessary to cut a main runner or cross tee, each cut end shall be supported by a vertical #12 S.W.G. Hanger Wire (See **FIG. 8**). A 1/2" clearance shall be maintained between the duct outlet and each cut end of main runner or cross tie. The duct outlet shall be located so that no more than one main runner cross tee is cut when penetrating the ceiling membrane.
5. The steel diffuser shall be attached to the collar of the lower "C" pan with a minimum of three screws (#3 above) equally spaced not over 6" O.C. The diffuser must provide a minimum of 1" support for the acoustical panels. Size of the hole cut in the panel for passage of the "C" pan collar shall be no more than 1" larger than the "C" pan collar.

INSTALLATION INSTRUCTION FOR MODEL MCCD2 CEILING DAMPER

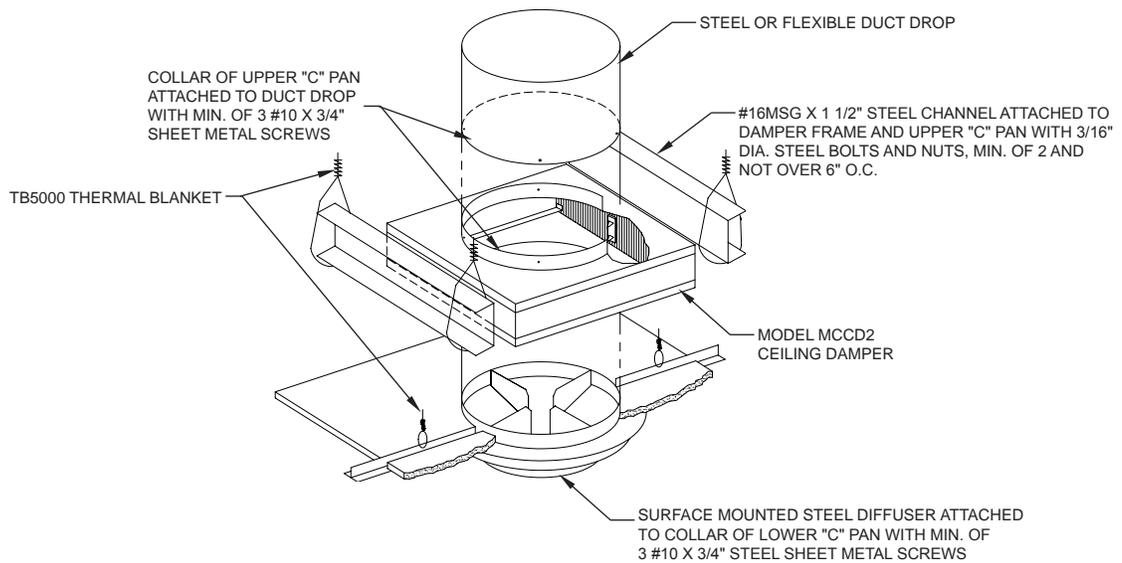


FIG. 7

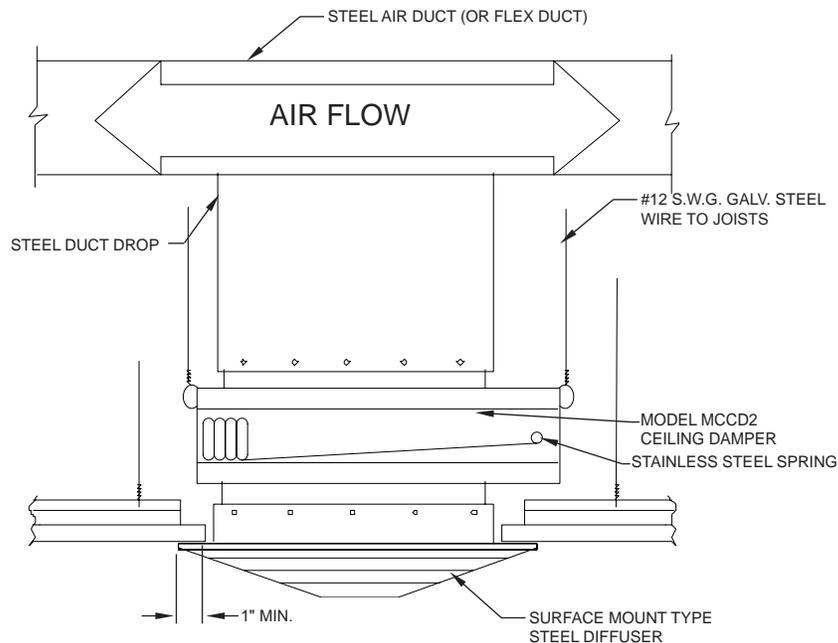


FIG. 8

INSTALLATION INSTRUCTIONS – MODEL MCCDS CEILING DAMPER

When installed as described herein, the MCCDS damper/skirt assembly provides the necessary protection to ductless return air assemblies in Fire Rated Floor/Roof-Ceiling Assemblies with fire resistance ratings of 3 hours or less, as described in the current UL Fire Resistance Directory. A maximum size ceiling penetration of 576 sq. in. can be protected utilizing the MCCDS ceiling damper/skirt assembly to protect the exposed portion of the ductless return air assembly. Installation of the ductless return air ceiling damper/skirt assembly shown on this instruction illustrates general arrangement. Installations must also include any specific requirements described in the specific fire resistance design.

All ceiling assemblies in the Fire Resistance Directory require that lay-in ceiling panels, which are cut to fill smaller size openings, in the ceiling grid modules, due to air duct penetrations, must bear a minimum of 3/8" on the flanges of the grid.

Ductless fire rated return air dampers are for use in lieu of hinged-blade sheet metal dampers in the individual Floor or Roof Ceiling Design(s) being used, as illustrated and described in the current UL "Fire Resistance Directory".

INSTALLATION OF MCCDS DAMPER/SKIRT ASSEMBLY

1. Place damper in ductless return opening of ceiling grid so that the bottom of the damper frame rests on the inside flange of the T-bars (See **FIG. 9**).
2. Place skirt of MCCDS damper over the T-bars around the perimeter of the damper as shown in **FIG. 9**.

PREPARATION OF CEILING GRID

In order to properly install the Type MCCDS ceiling damper, the following must be done:

1. After installing the 2-foot cross tee in the ceiling grid, (or if already installed), bend back the tabs of the 2-foot T-bars against the web of the T-bar intersected.
2. Using 12 S.W.G. (min.) galvanized steel hanger wire, independently support all four corners of the T-bar system at the corners of the damper. The hanger wires should be vertical (not splayed) and securely fastened to the structural floor or roof members above.

GENERAL NOTES

1. No dampers/ductless grilles (returns) shall be located in adjacent 24" x 48" ceiling grid modules.
2. For 12" x 24" dampers, Fire Resistive Designs must cover UL Classified ceiling grid members with slots, spaced 12" o.c., in 4-foot cross tees. Cartons of grid members shall be of the same type and bear the UL Classification marking.

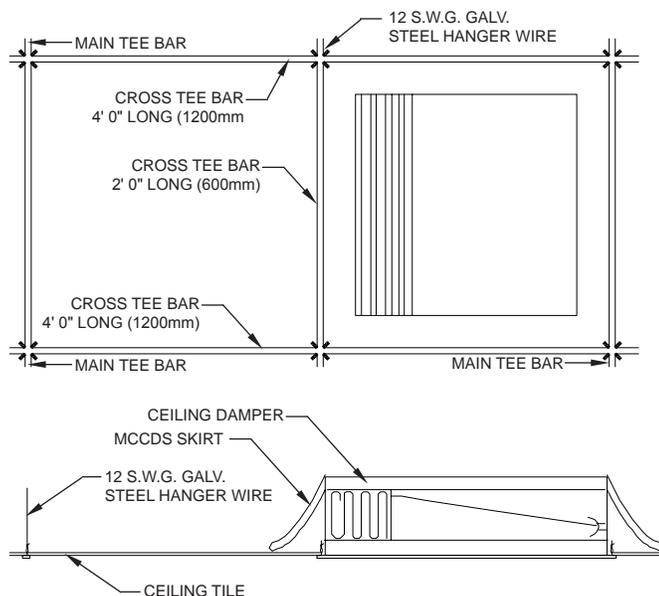


FIG. 9