

GENERAL NOTES FOR MTL. SUSPENSION SYSTEMS FOR LAY IN CEILINGS

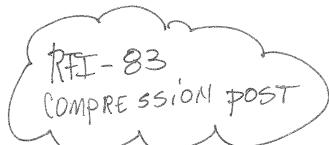
1. 12 GA. (MIN.) HANGER WIRES MAY BE USED FOR UP TO AND INCLUDING 4'-0" X 4'-0" GRID SPACING ALONG MAIN RUNNERS. SPLICES WILL NOT BE PERMITTED IN ANY HANGER WIRES UNLESS SPECIFICALLY APPROVED BY DSA/SSS.

LEAST, FOR THE PERIMETER OF THE CEILING AREA.

- 2. PROVIDE 12 GA. HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN 8" FROM THE SUPPORT OR WITHIN 1/4 OF THE LENGTH OF THE END TEE. WHICHEVER IS
- PROVIDE TRAPEZE OR OTHER SUPPLEMENTARY SUPPORT MEMBERS AT OBSTRUCTIONS TO MAIN HANGER SPACING. PROVIDE ADDITIONAL HANGERS, STRUTS OR BRACES AS REQUIRED AT ALL CEILING BREAKS, SOFFITS, OR DISCONTINUOUS AREAS. HANGER WIRES THAT ARE MORE THAN 1 IN 6 OUT OF PLUMB ARE TO HAVE COUNTER-SLOPING
- 4. CEILING GRID MEMBERS MAY BE ATTACHED TO NOT MORE THAN 2 ADJACENT WALLS. CEILING GRID MEMBERS SHOULD BE AT LEAST 1/2 INCH FREE OF OTHER WALLS. IF WALLS RUN DIAGONALLY TO CEILING GRID SYSTEM RUNNERS, ONE END OF MAIN AND CROSS RUNNER SHOULD BE FREE AND A MINIMUM OF 1/2 INCH CLEAR OF WALL.
- 5. AT THE PERIMETER OF THE CEILING AREA WHERE MAIN OR CROSS RUNNERS ARE NOT CONNECTED TO THE ADJACENT WALL, PROVIDE INTERCONNECTION BETWEEN RUNNERS AT THE FREE END TO PREVENT LATERAL SPREADING. A METAL STRUT OR A 16 GA. WIRE WITH A POSITIVE MECHANICAL CONNECTION TO THE RUNNER MAY BE USED. WHERE THE PERPENDICULAR DISTANCE FROM THE WALL TO THE FIRST PARALLEL RUNNER IS 12" OR LESS, THIS INTERLOCK IS NOT REQUIRED.
- 6. PROVIDE BRACING ASSEMBLIES CONSISTING OF A COMPRESSION STRUT AND FOUR 12 GA. SPLAYED BRACING WIRES ORIENTED 90° FROM EACH OTHER AT NOT MORE THAN

12'-0" X 12'-0" ON CENTER.

- PROVIDE BRACING WIRES AT LOCATIONS NOT MORE THAN 6'-0" FROM EACH PERIMETER WALL AND AT THE EDGE OF VERTICAL CEILING OFFSETS.
- THE SLOPE OF THESE WIRES SHOULD NOT EXCEED 45° FROM THE PLANE OF THE CEILING AND SHOULD BE TAUT WITHOUT CAUSING THE CEILING TO LIFT. SPLICES IN BRACING WIRES ARE NOT TO BE PERMITTED WITHOUT SPECIAL DSA/SSS APPROVAL.
- SUSPENDED ACOUSTICAL CEILING SYSTEMS WITH A CEILING AREA OF 144 SQUARE FEET OR LESS, SURROUNDED BY WALLS WHICH CONNECT DIRECTLY TO THE STRUCTURE ABOVE, DO NOT REQUIRE BRACING ASSEMBLIES WHEN ATTACHED TO TWO ADJACENT WALLS.
- 7. FASTEN HANGER WIRES WITH NOT LESS THAN 3 TIGHT TURNS. FASTEN BRACING WIRES WITH 4 TIGHT TURNS. MAKE ALL TIGHT TURNS WITHIN A DISTANCE OF 1-1/2". HANGER OR BRACING WIRE ANCHORS TO THE STRUCTURE SHOULD BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE WIRE ALIGNS AS CLOSELY AS POSSIBLE WITH THE DIRECTION OF THE FORCES ACTING ON THE WIRE.
- NOTE: WIRE TURNS MADE BY MACHINE WHERE BOTH STRANDS HAVE BEEN DEFORMED OR BENT IN WRAPPING CAN WAIVE THE 1-1/2" REQUIREMENT, BUT THE NUMBER OF TURNS SHOULD BE MAINTAINED, AND BE AS TIGHT AS POSSIBLE.
- 8. SEPARATE ALL CEILING HANGING AND BRACING WIRES AT LEAST 6 INCHES FROM ALL UNBRACED DUCTS, PIPES, CONDUIT, ETC. IT IS ACCEPTABLE TO ATTACH LIGHTWEIGHT ITEMS, SUCH AS SINGLE ELECTRICAL CONDUIT NOT EXCEEDING 3/4" NOMINAL DIAMETER, TO HANGER WIRES USING CONNECTORS ACCEPTABLE TO DSA/SSS.
- HVAC DUCTWORK, ELECTRICAL DISTRIBUTION, TELEPHONE SERVICES, COMPUTER CABLE DISTRIBUTION, AND OTHER SERVICES NORMALLY FOUND IN A CEILING SPACE, SHALL BE INDEPENDENTLY SUPPORTED AND APPROPRIATELY BRACED TO ELIMINATE ANY LATERAL FORCE ON THE CEILING MEMBRANE OR BRACING ELEMENTS.
- 9. WHEN DRILL-IN CONCRETE ANCHORS OR SHOT-IN ANCHORS ARE USED IN REINFORCED CONCRETE FOR HANGER WIRES. OUT OF 10 MUST BE FIELD TESTED FOR 200 POUNDS OF TENSION. WHEN DRILLED-IN CONCRETE ANCHORS ARE USED FOR BRACING WIRES, 1 OUT OF 2 MUST BE FIELD TESTED FOR 440 LBS. OF TENSION. SHOT-IN ANCHORS IN CONCRETE ARE NOT PERMITTED FOR BRACING WIRES. IF ANY SHOT-IN OR DRILLED-IN ANCHOR FAILS. ALL ADJACENT ANCHORS MUST BE TESTED. REFER ALSO TO TESTING REQUIREMENTS OF CBC, SECTION 1923A.3.5. DRILLED-IN OR SHOT-IN ANCHORS REQUIRE SPECIAL DSA/SSS APPROVAL WHEN USED IN PRESTRESSED CONCRETE.
- 10. ATTACH ALL LIGHT FIXTURES TO THE CEILING GRID RUNNERS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURES.
- ALL RECESSED LIGHTING FIXTURES HAVING A NOMINAL END DIMENSION OF 24" OR GREATER, SHALL BE POSITIVELY ATTACHED TO THE CEILING GRID RUNNER(S) AT THE END OF THE FIXTURE WITH TWO #8 SELF TAPPING TEK SCREWS, EACH SCREW SHALL BE LOCATED WITHIN 3" OF THE SIDE OF THE FIXTURE AND ATTACHED THROUGH THE BULB OF THE CEILING GRID RUNNER(S). LIGHT FIXTURES HAVING LESS THAN A NOMINAL 24" END DIMENSION SHALL BE ATTACHED WITH ONE #8 SELF TAPPING TEK SCREW AT THE CENTER OF EACH END OF THE FIXTURE, ATTACHED TO THE BULB OF THE CEILING GRID RUNNER(S). ALL ATTACHMENTS SHALL BE CAPABLE OF LATERALLY SUPPORTING THE WEIGHT OF THE FIXTURE. ALL FIXTURES REGARDLESS OF WEIGHT OR SIZE SHALL HAVE INTERLOCKING CEILING GRID RUNNER(S) ON ALL 4 SIDES OF THE FIXTURE.
- 1. CEILING-MOUNTED AIR TERMINALS OR SERVICES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION MAIN RUNNERS OR TO CROSS RUNNERS WITH THE SAME CARRYING CAPACITY AS THE MAIN RUNNER.
- AIR TERMINALS WITH A NOMINAL DIMENSION OF 24" OR LESS SHALL BE POSITIVELY ATTACHED TO THE CEILING GRID RUNNER(S) ON AT LEAST TWO OPPOSING SIDES WITH ONE # SELF TAPPING TEK SCREW ON EACH SIDE. EACH SCREW SHALL BE LOCATED IN THE CENTER OF THE AIR TERMINAL AND SHALL BE ATTACHED THROUGH THE BULB OF THE



- CEILING GIRD RUNNER(S). AIR TERMINALS IN EXCESS OF 24" IN LENGTH SHALL BE ATTACHED WITH TWO #8 SELF TAPPING TEK SCREWS ON EACH END OF DIFFUSER ATTACHED TO THE BULB OF THE CEILING GRID RUNNER(S). ALL ATTACHMENTS SHALL BE CAPABLE OF LATERALLY SUPPORTING THE WEIGHT OF THE AIR TERMINAL. ALL AIR TERMINALS REGARDLESS OF WEIGHT OR SIZE SHALL HAVE INTERLOCKING CEILING GRID RUNNER(S) ON ALL 4 SIDES OF THE AIR TERMINAL.
- 12. FLUSH OR RECESSED LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING LESS THAN 56 LBS. MAY BE SUPPORTED DIRECTLY ON THE RUNNERS OF A HEAVY DUTY GRID SYSTEM BUT, IN ADDITION, THEY MUST HAVE A MINIMUM OF TWO 12 GA. SLACK SAFETY WIRES ATTACHED TO THE FIXTURE AT DIAGONAL CORNERS AND ANCHORED TO THE STRUCTURE ABOVE. ALL 4'-0" X 4'-0" LIGHT FIXTURES MUST HAVE SLACK SAFETY WIRES AT EACH CORNER. ALL FLUSH OR RECESSED LIGHT FIXTURES AND AIR TERMINALS OR SERVICES WEIGHING 56 POUNDS OR MORE MUST BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN 4 TAUT 12 GA. WIRES EACH ATTACHED TO THE FIXTURE AND TO THE STRUCTURE ABOVE REGARDLESS OF THE TYPE OF CEILING GRID SYSTEM USED.
- THE 4 TAUT 12 GA. WIRES INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE MUST BE CAPABLE OF SUPPORTING

4 TIMES THE WEIGHT OF THE UNIT.

- 13. ALL FIXTURES AND AIR TERMINALS OR SERVICES SUPPORTED ON INTERMEDIATE DUTY GRID SYSTEMS MUST BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN 4 TAUT 12 GA. WIRES EACH ATTACHED TO THE FIXTURE OR TERMINAL AND TO THE STRUCTURE ABOVE.
- 14. SUPPORT SURFACE MOUNTED LIGHT FIXTURES BY AT LEAST TWO POSITIVE DEVICES WHICH SURROUND THE CEILING RUNNER AND WHICH ARE EACH SUPPORTED FROM THE STRUCTURE ABOVE BY A 12 GA. WIRE, SPRING CLIPS OR CLAMPS THAT CONNECT ONLY TO THE RUNNER ARE NOT ACCEPTABLE.
- PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE 8 FEET OR LONGER.
- 15. SUPPORT PENDANT MOUNTED LIGHT FIXTURES DIRECTLY FROM THE STRUCTURE ABOVE WITH HANGER WIRES OR CABLES PASSING THROUGH EACH PENDANT HANGER AND CAPABLE OF SUPPORTING 4 TIMES THE WEIGHT OF THE FIXTURE. A BRACING ASSEMBLY, AS DESCRIBED IN NOTE 6 OF THESE SUSPENSION SYSTEM NOTES, SHALL BE REQUIRED WHERE THE PENDANT HANGER PENETRATES THE CEILING. SPECIAL DETAILS ARE REQUIRED TO ATTACH THE PENDANT HANGER TO THE BRACING ASSEMBLY TO TRANSMIT HORIZONTAL FORCES.
- 16. METAL PANELS AND PANELS WEIGHING MORE THAN 1/2 PSF, OTHER THAN ACOUSTICAL TILE, ARE TO BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION RUNNERS.
- WHERE GYPSUM BOARD OR OTHER CEILING FINISHES ARE ATTACHED TO THE BUILDING FLOOR OR ROOF FRAMING. SPECIAL DETAILS WILL BE REQUIRED FOR THE VERTICAL HANGER WIRE AND LATERAL BRACING WIRE SUPPORT CONNECTIONS TO THE FRAMING.
- 18. WHEN THERE IS REUSE OF EXISTING CEILING HANGER WIRES AND SPLAY WIRES, THE GAUGE AND SPACING OF THE WIRES MUST COMPLY WITH CURRENT APPLICABLE CODES. ALL EXISTING CEILING HANGER WIRES MUST BE TESTED TO 200 LBS IN TENSION. ALL EXISTING SPLAYED BRACING WIRES MUST BE FIELD TESTED TO 440 LBS IN TENSION. IF A NEW WIRE IS TO BE SPLICED TO AN EXISTING WIRE, THE FOLLOWING
- A. THE ARCHITECT OR STRUCTURAL ENGINEER IN GENERAL RESPONSIBLE CHARGE MUST SUBMIT TO DSA/SSS A DETAIL AND SPECIFICATION OF HOW THE SPLICE IS TO BE MADE.
- B. ALL NEW WIRES, AFTER BEING SPLICED TO THE EXISTING WIRES, MUST BE FIELD TESTED AS STATED
- C. ALL FIELD TESTS MUST BE PERFORMED IN THE PRESENCE OF THE PROJECT INSPECTOR.
- 19. CLASSIFICATION OF CEILING GRID IS HEAVY DUTY. COMPONENTS SHALL COMPLY WITH THE FOLLOWING

MANUFACTURER	MAIN RUNNER	CROSS RUNNER	DSA/SSS APPRV. NO
ARMSTRONG	7301	7340(1)	PA-041 (1)
CHICAGO METALLIC	200	1204(2)	PA-026 (2)
DONN CORPORATION	DX26	DX424(3)	PA-030 (3)
FOOT NOTES:			

(1) FOR 2 X 2 GRID USE 7324 (2) FOR 2 X 2 GRID USE 1226 (3) FOR 2 X 2 GRID USE DX216

- 20. ALTERNATE MANUFACTURERS AND SYSTEMS MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE DIVISION OF THE STATE ARCHITECT.
- 21. ANCHORS FOR WALL ANGLES
- A. AT WOOD STUD WALL: 4D COMMON NAIL @ 16" OC.
- B. AT METAL STUD WALL: 1-1/8" TYPE "S" BUGLE HEAD DRYWALL SCREW AT 16" OC.
- C. AT MASONRY WALL: 1/4" DIA. X 1-1/2" LONG KWIK CON II ANCHOR SCREW @ 16" OC. ICBO NO. 5259

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BUILDINGS 5 & 6 RENOVATIONS

San Mateo County Community
College District



CAÑADA COLLEGE 4200 Farm Hill Boulevard

Redwood City, CA 94061 SUSPENDED ACOUSTICAL CEILING

DETAILS Drawing Number

08/29/08

AS NOTED

Project Number

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