

WEST NAVARRE INTERMEDIATE SCHOOL
5 CLASSROOM ADDITION

SECTION 15074 - VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES THE FOLLOWING:

1. ISOLATION PADS.
2. ELASTOMERIC HANGERS.
3. SPRING HANGERS.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH PRODUCT INDICATED.

PART 2 - PRODUCTS

2.1 VIBRATION ISOLATORS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

1. ACE MOUNTINGS CO., INC.
2. AMBER/BOOTH COMPANY, INC.
3. ISOLATION TECHNOLOGY, INC.
4. KINETICS NOISE CONTROL.
5. MASON INDUSTRIES.
6. VIBRATION ELIMINATOR CO., INC.
7. VIBRATION ISOLATION.
8. VIBRATION MOUNTINGS & CONTROLS, INC.

B. PADS: ARRANGED IN SINGLE OR MULTIPLE LAYERS OF SUFFICIENT STIFFNESS FOR UNIFORM LOADING OVER PAD AREA, MOLDED WITH A NONSLIP PATTERN AND GALVANIZED-STEEL BASEPLATES, AND FACTORY CUT TO SIZES THAT MATCH REQUIREMENTS OF SUPPORTED EQUIPMENT.

1. RESILIENT MATERIAL: OIL- AND WATER-RESISTANT NEOPRENE OR RUBBER.

C. ELASTOMERIC HANGERS: SINGLE OR DOUBLE-DEFLECTION TYPE, FITTED WITH MOLDED, OIL-RESISTANT ELASTOMERIC ISOLATOR ELEMENTS BONDED TO STEEL HOUSINGS WITH THREADED CONNECTIONS FOR HANGER RODS. COLOR-CODE OR OTHERWISE IDENTIFY TO INDICATE CAPACITY RANGE.

D. SPRING HANGERS: COMBINATION COIL-SPRING AND ELASTOMERIC-INSERT HANGER WITH SPRING AND INSERT IN COMPRESSION.

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1. FRAME: STEEL, FABRICATED FOR CONNECTION TO THREADED HANGER RODS AND TO ALLOW FOR A MAXIMUM OF 30 DEGREES OF ANGULAR HANGER-ROD MISALIGNMENT WITHOUT BINDING OR REDUCING ISOLATION EFFICIENCY.
2. OUTSIDE SPRING DIAMETER: NOT LESS THAN 80 PERCENT OF THE COMPRESSED HEIGHT OF THE SPRING AT RATED LOAD.
3. MINIMUM ADDITIONAL TRAVEL: 50 PERCENT OF THE REQUIRED DEFLECTION AT RATED LOAD.
4. LATERAL STIFFNESS: MORE THAN 80 PERCENT OF RATED VERTICAL STIFFNESS.
5. OVERLOAD CAPACITY: SUPPORT 200 PERCENT OF RATED LOAD, FULLY COMPRESSED, WITHOUT DEFORMATION OR FAILURE.
6. ELASTOMERIC ELEMENT: MOLDED, OIL-RESISTANT RUBBER OR NEOPRENE. STEEL-WASHER-REINFORCED CUP TO SUPPORT SPRING AND BUSHING PROJECTING THROUGH BOTTOM OF FRAME.
7. SELF-CENTERING HANGER ROD CAP TO ENSURE CONCENTRICITY BETWEEN HANGER ROD AND SUPPORT SPRING COIL.

PART 3 - EXECUTION

3.1 INSTALLATION

A. EQUIPMENT RESTRAINTS:

1. INSTALL RESILIENT BOLT ISOLATION WASHERS ON EQUIPMENT ANCHOR BOLTS WHERE CLEARANCE BETWEEN ANCHOR AND ADJACENT SURFACE EXCEEDS 0.125 INCH.

B. PIPING RESTRAINTS:

1. COMPLY WITH REQUIREMENTS IN MSS SP-127.
2. SPACE LATERAL SUPPORTS A MAXIMUM OF 40 FEET O.C., AND LONGITUDINAL SUPPORTS A MAXIMUM OF 80 FEET O.C.
3. BRACE A CHANGE OF DIRECTION LONGER THAN 12 FEET.

C. INSTALL CABLES SO THEY DO NOT BEND ACROSS EDGES OF ADJACENT EQUIPMENT OR BUILDING STRUCTURE.

D. INSTALL BUSHING ASSEMBLIES FOR ANCHOR BOLTS FOR FLOOR-MOUNTED EQUIPMENT, ARRANGED TO PROVIDE RESILIENT MEDIA BETWEEN ANCHOR BOLT AND MOUNTING HOLE IN CONCRETE BASE.

E. ATTACHMENT TO STRUCTURE: IF SPECIFIC ATTACHMENT IS NOT INDICATED, ANCHOR BRACING TO STRUCTURE AT FLANGES OF BEAMS, AT UPPER TRUSS CHORDS OF BAR JOISTS, OR AT CONCRETE MEMBERS.

F. DRILLED-IN ANCHORS:

1. IDENTIFY POSITION OF REINFORCING STEEL AND OTHER EMBEDDED ITEMS PRIOR TO DRILLING HOLES FOR ANCHORS. DO NOT DAMAGE EXISTING REINFORCING OR EMBEDDED ITEMS DURING CORING OR DRILLING. NOTIFY THE STRUCTURAL ENGINEER IF REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED DURING DRILLING. LOCATE AND AVOID PRE-STRESSED TENDONS, ELECTRICAL AND TELECOMMUNICATIONS CONDUIT, AND GAS LINES.

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2. DO NOT DRILL HOLES IN CONCRETE OR MASONRY UNTIL CONCRETE, MORTAR, OR GROUT HAS ACHIEVED FULL DESIGN STRENGTH.
 3. WEDGE ANCHORS: PROTECT THREADS FROM DAMAGE DURING ANCHOR INSTALLATION. HEAVY-DUTY SLEEVE ANCHORS SHALL BE INSTALLED WITH SLEEVE FULLY ENGAGED IN THE STRUCTURAL ELEMENT TO WHICH ANCHOR IS TO BE FASTENED.
 4. SET ANCHORS TO MANUFACTURER'S RECOMMENDED TORQUE, USING A TORQUE WRENCH.
 5. INSTALL ZINC-COATED STEEL ANCHORS FOR INTERIOR AND STAINLESS-STEEL ANCHORS FOR EXTERIOR APPLICATIONS.
- G. INSTALL ALL VIBRATION CONTROL DEVICES IN ACCORDANCE WITH MANUFACTURES PRINTED INSTRUCTIONS.
- H. PROVIDE ISOLATION PADS FOR ALL FLOOR MOUNTED EQUIPMENT WITH NON-INTERNALLY ISOLATED ROTATING PARTS.
- I. PROVIDE ISOLATION ELASTOMERIC HANGERS OR SPRING HANGERS FOR ALL SUSPENDED EQUIPMENT WITH NON-INTERNALLY ISOLATED ROTATING PARTS.

END OF SECTION 15074