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Loudspeaker Suspension in Houses of Worship

overhead suspension than to retrofit loudspeakers not intended for this use.

You may be asking yourself, "What's wrong with suspending by the handles? Isn't that what they are made for?" After all, it seems reasonable that handles are designed to support the weight of the loudspeaker. They are, but only intermittently and only a few feet above the floor. The low height doesn't change the forces on the handles, but it does change the level of risk. A handle failure while a speaker is being carried down a hall may result in only a dented or scraped speaker enclosure, but a handle failure while a loudspeaker is hanging over a pulpit has unacceptable consequences.

Most loudspeaker manufacturers would never approve of a handle being used as a suspension device. Handles are usually installed with a few wood screws and, over time, the screws will loosen or strip out of the wood. They also know that handles are often made as cheaply as possible, and without strict quality controls. A handle is simply not a viable permanent suspension point.

Some people will install eyebolts on a speaker cabinet to create suspension points. Eyebolts can work very well for suspending a loudspeaker, but only if the eyebolts are the appropriate type and are installed properly. Loudspeakers are often suspended from formed-wire eyebolts from the local hardware store installed in the sides of loudspeakers by drilling a hole through the enclosure and putting a washer and nut on the inside of the box. Unfortunately, these loudspeakers are often seen on the floor after they have fallen from their perch. Usually the formed eyebolt – which is really nothing more than thick bent wire – is to blame; it has peeled open or snapped off at the base. On occasion, the fastening from the suspension chain to the eyebolt is done with an s-hook that has been squeezed shut with a big pair of pliers, or a link of the chain has been bent open and then re-closed. Either way, this bending and rebending is likely to cause a fracture in the cheap metal alloy. Sometimes the eyebolt is omitted and the chain is bolted directly to the loudspeaker, bending the links and creating a weak, as well as unsightly, fastening in the process.

So how does one suspend a loudspeaker enclosure correctly? The best course is to purchase a loudspeaker designed for overhead suspension with suspension points already installed by the manufacturer. The materials used for the enclosure, the fasteners used to hold it together, the type of grill attachment, and the distribution of the forces within and through the enclosure are all some of the elements that have been accounted for by the manufacturer when making a loudspeaker for overhead suspension applications.

At the current time there is no American National Standard (ANSI) for loudspeaker enclosures designed for overhead suspension, but one is being developed (E1.8, Entertainment Technology-Loudspeaker

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