

Metal Security Ceilings - Use and Practice

INTRODUCTION

To a large extent, metal acoustical security ceilings were born out of the need to provide noise reduction in the corrections environment. Increased noise levels in today's correctional facilities are a direct result of the hard surfaces (steel/concrete) required by design for security, combined with the noise generated by general overcrowding of the facility. The advantages of incorporating acoustical control into the detention environment are well documented in "*Acoustics and Corrections - A Practical Guide for Administrators and Planners*," a publication of the Committee on Acoustics in Corrections. The need to fully consider acoustics in justice design is further supported by the standards and recommendations of the American Correctional Association.

Metal security acoustical ceilings are available in many system designs, depending on use and security levels. Careful attention should be given during the conceptual stage of a project as to what type of system, or combination of systems, will best suit the project's needs. Requirements may include impact resistance, as a barrier to above ceiling building components, resistance to contraband concealment, durability of the finish, and/or utilization of the ceiling system as a plenum floor for maintenance of HVAC, etc.

For the most part, metal security ceiling systems are a specialized hybrid of acoustical ceiling systems. That is to say that, similar to standard acoustical ceilings, these metal security ceiling systems are designed to reduce noise within a room area and/or to limit the transmission of noise from one room area to another. Furthermore, metal security ceiling systems are commonly suspended using wall angles and suspended "T" assemblies. Therefore, the reader is referred to CISCA's *Acoustical Ceilings - Use and Practice* which provides an overview of architectural acoustics along with a broad form technical summary of suspended acoustical ceiling systems, including definitions of common testing and terminology. *Acoustical Ceilings - Use and Practice* also makes recommendations as to proper material handling, storage at the jobsite, and general installation standards that are applicable to many of today's security ceiling systems. Justice designers should refer to their selected metal security ceiling manufacturer's installation recommendations for specific installation guidelines.

Attached as the appendix to this manual is an excerpt from the American Correctional Association's *ACA Guide for Adult Local Detention Facilities*, addressing acoustics in corrections. This appendix has been directly reprinted with permission from the American Correctional Association and the Committee on Acoustics in Corrections. The reader is encouraged to review this appendix for an understanding of the corrections industry's current standards and recommendations relative to acoustical control in the design of detention facilities.