# 焊接屏蔽室

# Welded Shielding Room

相对于其他类型的屏蔽设备加工方式,焊接加工,历来被专家们认为是可靠性和屏蔽性能最高的屏蔽设备加工方式。

Welded fabrication has traditionally been considered by experts the most reliable and highest performing shielding method compared to mechanically clamp shielded enclosure designs.

RF 的屏蔽应用,如大型计算机设施、EMP 试验场、3 到 10 米的电磁兼容室、对 RF 性能要求较高的设备和更广泛的频率保护范围等等,对屏蔽可靠性的要求势在必行。CNEMC 从最初的咨询、设计、工程、制造和最后测试验证,结合自身的焊接制作概念与提供全面服务的能力,为顾客提供多年的产品最大屏效服务。

In demanding RF shielding applications including large computer facilities, EMP testing sites, 3 to 10 meter EMC chambers, and metrology complexes requiring higher RF performance and broader frequency range protection... shielding reliability is imperative. CNEMC RF Enclosures combines the welded fabrication concept with full-service capabilities ranging from initial consultation, design, engineering, and fabrication to final testing certification to provide maximum shielding effectiveness over many years of service.



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为了确保产品最高屏蔽性能,CNEMC 的全焊接屏蔽室通常采用单层高等级热轧钢板材料设计,以尽量减少焊缝面积。单层屏蔽材料在焊接设计上大大优于多层屏蔽材料,以符合低磁场衰减和高频补漏要求。

To ensure the highest shielding performance, CNEMC's all welded shielded room concept typically uses a single layer of high grade hot rolled steel sheet material in sizes designed to minimize seam footage. A single layer of shielding material in a welded design can significantly outperform multilayer shielding systems to meet lower magnetic field attenuation requirements and compensate for high frequency seam leakage.

#### 框架结构

#### **Structural Framework**

CNEMC 的焊接屏蔽室结构框架是可独立支撑的,并符合 UBC 规范以及最新 AISC 的标准。该系统结构同时满足全球地震法规要求。屏蔽支承结构采用管、柱、梁、A36 级结构钢板,共同建造而成。其中结构钢和屏蔽室外部均采用 A36 级结构钢板建造,以抑制屏蔽室表面锈蚀。整个框架结构和屏蔽系统更能支撑天花板、铁素体负荷墙、混合吸收体、绞车和其他机械设备。

The structural framework of CNEMC welded shielded room is free-standing and conforms to the Uniform Building Code (UBC) and the latest American Institute of Steel Construction (AISC) standards. The system may also be structurally certified to meet global seismic regulations. The shielding supporting structure employs a tube, column, and I beam concept constructed of A36 grade structural steel. Both the structural steel and exterior surface of the shield are then primed and painted

to I beam concept constructed of A36 grade structural steel. Both the structural steel and exterior surface of the shield are then primed and painted to inhibit surface rusting. The completed structural framework and shielding system is more than capable of supporting ceiling and wall loads of ferrite, hybrid absorbers, hoist and other mechanical equipment.



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# RF接缝的完整性

# **RF Seam and Joint Integrity**

CNEMC 的全焊接屏蔽室设计,没有任何机械接缝可导致屏效严重损失且必须高度维修的后果。焊缝可能会受到由于温度和湿度的变化而造成的腐蚀、氧化和机械扩张。

CNEMC's all-welded room design does not have any mechanical seams which can result in high maintenance and serious loss of shielding effectiveness. The welded seams are unaffected by corrosion, oxidation, and mechanical expansion brought about by temperature and humidity changes.

# 物理安全性

#### **Physical Security Characteristics**

物理安全性做为屏蔽设计考虑的一部分,可强化全焊接屏蔽室外壳,以满足 SCIF 人身安全标准 DIAM 和 50-3/DCID 1/2 要求。

When physical security specifications are part of the shielding design considerations, the allwelded enclosure may be enhanced to meet the physical security standards for Sensitive Compartmented Information Facilities (SCIF) requirements of DIAM 50-3/DCID 1/21.

#### 高RF衰减性

# **High RF Attenuation**

CNEMC 的全焊接屏蔽室的设计应用业内最苛刻的屏蔽性能可靠性要求标准。它超越 MIL-STD 285, IEEE 299, NSA 65-6/94-106 政府规格及 CID 09.1 商业需求。全焊接屏蔽室提供长期免费维修 RF 性能服务,优越的结构完整性支持 30hz 到 94ghz 及以上屏蔽要求。

CNEMC's all-welded shielded room design has set the standard for reliable shielding performance in the industry's most demanding applications. It exceeds the RF performance requirements of government specifications MIL-STD 285, IEEE 299, NSA 65-6/94-106 and CID 09.12 as well as commercial needs. This pre-engineered, all-welded shielding concept offers long-term, maintenance-free RF performance and superior structural integrity to support shielding requirements from 30Hz to 94GHz and above.

# 轻型全焊接屏蔽室

# Portable All-Welded Buildings

较小的全焊接屏蔽室 可由起重吊钩,用卡车叉车 等运至指定位置。轻型全焊 接室的可根据屏蔽环境需 要迁移的能力,使其成为许 多军事和商业应用的一种 经济理想的选择。轻型全焊 接室规格为 10' W x 10' H x 40' L。

Smaller all-welded shielded rooms can be set up with lifting hooks, to allow transport by truck or forklift ....to a selected site. The ability to relocate the shielded



environment as needed makes the portable all-welded design an economical and ideal choice for many military and commercial applications. Portable all-welded rooms are available up to a maximum size of  $10' \text{ W} \times 10' \text{ H} \times 40' \text{ L}$ .



# RF屏蔽门

### **RF Door Systems**

CNEMC 的焊接屏蔽室可与各种高性能防护门装配使用,有滑行气囊门,铰链气囊门 ,双刀三簧门等。这些门提供卓越的屏蔽性能和可靠性,满足焊接屏蔽室操作安全、增强 RF 屏效的要求。

CNEMC's welded enclosure design interfaces readily with a variety of high performance shielded doors. We offer the pneumatically sealed sliding door (PSD), pneumatically hinged door (PHD), or double knife edge (DKE) door, or recessed contact mechanism (RCM) door. These doors provide outstanding shielding performance reliability and are capable of meeting a range of operational, security, and extended RF shielding performance objectives for the welded system.

RF滤波器和 其他组件 RF Filters and Component Accessories

CNEMC 的多型号电源和信号滤波器满足MIL-STD 220A, MIL-F-15733, UL 1283,旧军标GJBZ202、新军标GJB5792测试要求要求和其他多项国际标准。专门设计的通风波导孔和液体导管丝毫不会降低屏蔽性能。

CNEMC provides a full range of power and signal line filters to meet MIL-STD 220A, MIL-F-15733, UL 1283, and most international standards. Specially designed waveguide air vents and feedthroughs allow for liquid and air passage without compromising shielding integrity.



# **Installation and Testing**

CNEMC 训练有素的工作人员可在客户指定上的位置现场焊接制作,也可为您安装便携型焊接屏蔽室。CNEMC 的工

作人员在练 RF 诊断测试上训练有素,并因其做工、产品坚固耐用和可靠的 RF 屏蔽性能,赢得了业界的尊重。

With the most thoroughly trained staff in the industry, CNEMC will fabricate and weld your enclosure at your site, or assist you with installation of a portable welded enclosure. CNEMC' spersonnel are fully trained in RF diagnostic testing, and are industry respected for their workmanship and detail to produce consistent and reliable RF shielding.

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