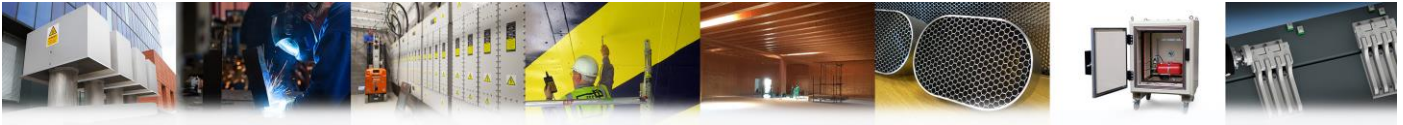


EMP Protection Products & Services



The Nuclear Electromagnetic Pulse

The Nuclear Electromagnetic Pulse is a product of a nuclear explosion. The phenomena has been known since the late 1950s. The characteristics of the electromagnetic radiation resulting from the nuclear explosion depends on the altitude at which the explosion occurs. The three categories are; high altitude, air burst and surface burst NEMP. The source of electromagnetic radiation is basically the same in all cases. The high energy Gamma Radiation from the nuclear explosion collides with the air molecules in the earth's atmosphere and dislodges electrons from these molecules which then become free to move rapidly away from their parent molecule. These free electrons are known as Compton Electrons and the movement of the charge is known as Compton Current.



However, the last few years has seen the development of 'pulse weapons' designed to have the same affects as nuclear EMP but without the need for a nuclear bomb!

Electromagnetic Pulse Protection (EMPP)

The purpose of EMP Protection is to prevent the electromagnetic pulses from high level nuclear weapons disrupting and destroying electronic equipment.

Modular EMP Shielded Rooms and Cabinets

These modular shielded rooms are constructed from prefabricated, standardised panels. The panels are connected using bolts and a electrically conductive mesh gasket is fitted between each joint. The modular construction allows for almost unlimited size and configurations. The panel material is 2 mm thick galvanised steel sheet to ensure maximum shielding performance and corrosion resistance.



EMP Performance (Standard)

Magnetic Field: 60 dB at 10 kHz to 80 dB at 100 kHz

Electric Field: 80 dB from 1kHz to 1GHz

Plane Wave: 80 dB from 1 GHz to 18 GHz

Upper and lower frequency performance can be extended if required

EEP can offer full internal linings, lights and electrical distribution within all Shielded Rooms and Cabinets.

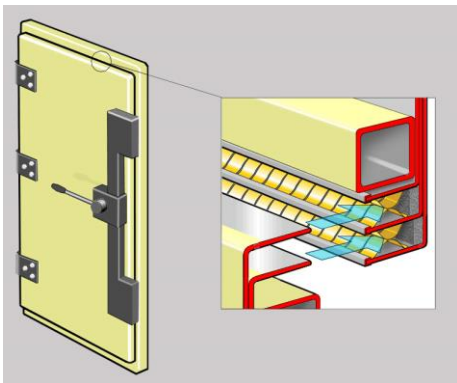
EMP Protection Products & Services



EMP Shielded Doors

The door is the most important part of any shielded facility therefore the design and quality of the construction is essential. EEP design a wide range of Shielded Doors to meet all performance levels and applications both internally and externally.

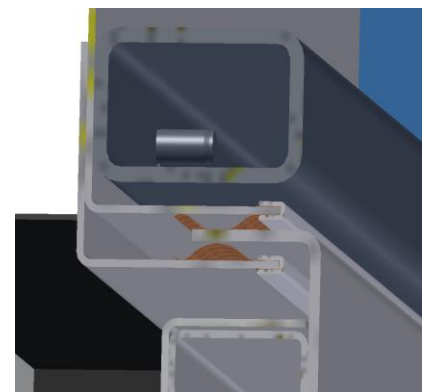
As most shielding projects are unique EEP can design or adapt our designs to meet your specific needs. These can include manual, electric or pneumatic latches, all types of locks, weather and NBC (nuclear, biological chemical) seals, and thermal, acoustic or blast protection.



EMP Shielded Ventilation Vents

EMPP Ventilation Vents consist of a steel honeycomb which allows air to pass through but attenuates radiated interference. They are designed for use in all high performance EMPP, EMC and TEMPEST applications.

Manufactured from steel they offer excellent shielding performance in the H field, as well as the E field and Plane wave modes.



EMP Line Protection Systems

A combination of active and passive elements that makes an EMP pulse to be diverted and attenuated.

EMP line protection system line actions.

Diversion at stage 1 by primary surge arrestor, spark gap or varistor.

Delay between first and second stage by delay choke.

Diversion at stage 2 by surge arrestor, spark gap or varistor.

Attenuation at stage 4 by a high-performance EMI filter.

Diversion at stage 4 by diode or varistor.

All stages given additional protection by enclosure in a shielded box / or boxes.

EMP Testing

Shielding Effectiveness Testing of EMPP Facilities to:

Mil Std 285, IEEE 299 and Mil Std 188-125

Pulse injection testing of EMPP filters to all NATO military standards

European EMC Products Experience

Listed below is a small selection of some recent projects we have worked on:

- RAF North Luffenham UK (Communications Centre)
- RAF Uxbridge UK (Communications Centre)
- Imphal Barracks UK (Communications Centre)
- RNAD (Royal Naval Ammunition Depot) Gosport UK
- NATO facilities, Italy
- Norwegian Defence Command, 30 plus sites
- Communications Bunker, Abu Dhabi
- EMPP facility for Polish MOD
- USAF RAF, Fylingdales UK
- USN, Newquay, UK
- USAF, Doha Qatar
- United Arab Emirates, Ministry of Defence, Abu Dhabi: EMP cabinets, doors, waveguides and EMP testing
- Norwegian Ministry of Defence, various locations: EMP cabinets
- United Kingdom Ministry of Defence, various locations: RF Shielded Doors, Mobile RF shielded shelters, Maintenance and RF testing of existing EMP facilities.
- HMS Collingwood: RF Shielded Communications Room
- British Aerospace, UK: RF shield to protect against High Voltage interference.
- GEC Marconi, UK: 3 modular RF shielded rooms.
- HM Government, UK: Stainless steel ground plane for EMC testing.
- Royal Airforce of Oman, RAFO: Shielded control rooms for RAFO radar sites housing Alenia Marconi Radar
- Royal Swedish Navy, Kockums Shipyard: Stainless steel RF Vents for Visby stealth frig

EMP Protection Products & Services

About Us

Established in 1996, European EMC Products (EEP) are an established British company whose experience and understanding of the science of shielding makes it an ideal partner in whom you can place your trust with confidence. The purpose of installing EEP shielding systems is to protect people and equipment against the threats posed by electromagnetic and radio frequency (RF) interference, radiation, magnetic fields and electromagnetic pulses. Our diverse range of turnkey products and services, including design, project management, testing and consultancy are delivered across multiple sectors to an international client base.

Quality

European EMC Products Limited are registered to BS EN ISO 9001:2015, Certificate Number FS38901.
Registered Scope: The design, assembly, installation, servicing and testing of RF Shielded Structures and equipment including EMI Shielding, Blast Doors, Gas Tight Doors and specialised mobile Electromagnetic Pulse Protection (EMPP) containers.
Radio Frequency, Magnetic Shielding and Quench systems for MRI (Magnetic Resonance Imaging) scanners.
The design, assembly and installation of Ionising Radiation Protection facilities.
The design, manufacture and installation of LED lighting systems for medical applications.
EEP Filters Limited are registered to BS EN ISO 9001:2015, Certificate Number FS38901.
Registered Scope: The design, manufacture, management of installation and testing of high performance EMC and EMP Power and Data Line Filters.

Disclaimer

NB: All the information provided within this datasheet is for reference only. Product specifications are subject to change without notice.