



## Technical Leaflet M 1.1

### Explosion Protection

Explosion protected types of Elstein Infrared Radiation Elements are not available. However under certain measures to prevent fire and/or explosion Elstein infrared emitters may be used in such endangered areas. This information refers to the Federal Republic of Germany and to the European Union. In all cases those regulations must be observed which are applicable in the country where the infrared radiation elements are used.

- 1) It must be checked whether the space to be heated or the respective factory equipment is to be regarded as potentially explosive e. g. in the sense of the European regulations 94/9 EG (ATEX 100a).

For rooms and areas where the formation of a hazardous, potentially explosive atmosphere must be expected, we would like to focus your attention on the following regulations:

- EN 1127-1 Basic principles and methodology
- EN 60079-10 Classification of hazardous areas
- EN 60079-14 Electrical apparatus for explosive gas atmospheres. Electrical installations in hazardous areas.
- EN 60519 Safety in electro heat installations.
- EN 60079-17 Inspection and maintenance of electrical installations in hazardous areas.

In case of doubt whether room or factory equipment must be regarded as potentially explosive as described above, the authorities in charge together with employer's liability insurance associations of your country will normally give assistance.

- 2) Coating spraying and drying (lacquer, varnish, enamel paint etc).

It must be ensured that, if the oven is fed in the prescribed way, the vapour concentration of the solvents is always sufficiently enough below the minimum ignition limit. Such safety can be achieved if the design of the ovens is calculated in accordance with the calculation principles for the design and operation of paint drying ovens.

If it is impossible to hold the solvent steam concentration by ventilation below the lower ignition limit in the vapour filled space the space must be so pressure resistant build up that it is able to withstand the expected explosion pressure. If that is impossible, measures must be met, which prevent the dangerous effect.

All heating elements and hot areas must be protected against dropping of coatings on them and against direct contact with coatings. This can be solved by irradiation from above and/or from the side.

This version serves only for the general information. It does possibly not reflect the latest state of the applicable regulation.