1 Scope

This document is concerned with the classification of areas where explosive dust~~/air mixtures~~ atmospheres and combustible dust layers are present, in order to permit the proper selection of equipment for use in such areas.

In this document, explosive dust atmospheres and combustible dust layers are treated separately. In Clause 4 area classification for explosive dusts clouds is described, with dust layers acting as one of the possible sources of release. In Clause 7 the hazard of dust layer ignition is described.

The document assumes effective housekeeping based on a system of cleaning for the plant.

The principles of the document can also be followed when combustible fibres or flyings may cause a hazard.

This document is intended to be applied where there can be a risk due to the presence of explosive dust~~/air mixtures~~ atmospheres or combustible dust layers under normal atmospheric conditions. It does not apply to

- underground mining areas;
- areas where a risk can arise due to the presence of hybrid mixtures;
- dusts of explosives that do not require atmospheric oxygen for combustion, or to pyrophoric substances;
- catastrophic failures, which are beyond the concept of abnormality dealt with in this document (see note 1);
- any risk arising from an emission of flammable or toxic gas from the dust.
- combustible metallic dusts.

This document does not take into account the effects of consequential damage following a fire or an explosion.

NOTE 1 — Catastrophic failure in this context is applied, for example, to the rupture of a storage silo or a pneumatic conveyor

NOTE 2 — In any process plant, irrespective of size, there can be numerous sources of ignition apart from those associated with equipment. Appropriate precautions will be necessary to ensure safety in this context, but these are outside the scope of this document.

2 ~~Normative~~ References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies

IEC 61241-0, Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements[1]

[1] To be published.