

Explosion protection services

Using our extensive experience in the field of development and application and protective systems and experience with a real explosion during their tests, as well as their effect in technological operations, we offer customers and partners technical assistance based on the requirements of directive 99/92/EC (ATEX 137), which lies in assessing the existing as well as projected technological operations from an explosion risk perspective.

A practical perspective on an explosion risk in evaluated premises and facilities brings considerable savings when overestimating risks (e.g. unnecessary expenses for the reconstruction of electrical fittings) as well as its underestimating (damages caused by an explosion - technological equipment, loss of production).

A component of technical assistance may also be the presence during discussions with the inspection authorities during project approvals, furthermore assistance in defining an order for a technology supplier, resp. for the purchase of new equipment designated for use in an environment with an explosion risk, verification of equipment documentation, etc.

Our advantage is the ability to specifically determine protective measures against an explosion, stemming from a detailed knowledge of protective systems delivered to us.

These proposals may include:

risk analysis

A risk analysis incorporating the discovered explosive characteristics of dust present during operation, classification of zones in the environment with a risk of explosion inside and outside of the facility, evaluation of the presence and effectiveness of ignition sources. The result of the analysis is a proposal of preventative and organizational measures, a determination of requirements for mechanical and electrical equipment, and the identification of risky equipment.

Individual parts of the risk analysis may also be performed individually.

proposal of protective measures

A proposal of protective measures is established upon the risk analysis, or otherwise, the application of individual protective systems, which in-

clude the selection of the most suitable type of safeguard for a given facility, a determination of the quantity and location of individual safeguard components, delineating the areas for explosion venting and determining the requirements for pressure resistance of individual facilities and their interconnection.

calculating pressure resistance

Based on the geometrical design and dimensions of the facility, applied material, load and marginal conditions, we provide a determination of a facility's pressure resistance, or if necessary, a proposal for constructional modifications to bring it up to the required level. Based on the geometrical design and equipment dimensions, applied material, load and marginal conditions, we determine the pressure resistance of facilities, or if necessary, a proposal of constructional modifications to bring it up to the required level.

Due to the fact that an explosion is non-linear event and the material stress values exceed the yield point, the simulations are performed in a non-linear fashion, which is only appropriate method for achieving practical results.

implementation of safeguards using personal protection systems

VST Engineering safeguards technological facilities exclusively using its personal protection systems. It guarantees that their application, including installation, will be executed in full accordance with executed inspections and that no substantial safeguard appurtenances will be neglected.

revisions, warrant, and out-of-warranty service

We perform compulsory regular revisions, warrant and out-of-warranty servicing on all protection systems that we provide.

training and seminars

VST Engineering organizes training and seminars for those interested, whose topics include legislation and its application in practice, the procedure during risk analysis and when preparing an Explosion Protection Document.

