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ISSA „Explosion Protection“ Workshop 13 and 14 May 2009 at Frankfurt/Main

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“Optimization of the constructional explosion protection at elevators and optimization of the constructional explosion protection with the use of metal types of dust”

Introduction

The existing sets of European Standards such as EN 14491 "Dust explosion venting protective systems" or EN 14373 "Explosion suppression systems" however cannot be applied to elevators due to geometrical conditions. If the protective measure "explosion suppression" is used in connection with metal dusts, knowledge deficits exist regarding the design and the limits of the effectiveness.

Summary

With consideration of existing research results, experimental investigations were accomplished at an elevator in connection with both protective measures explosion venting and explosion suppression. The experimental explosion suppression tests started with aluminum types of dusts. The gained first results will be reported.

Results/Conclusions

The design of the vent area at elevators with bursting disks as venting devices is possible in dependence of the elevator length and the elevator resistance. Further investigations with vent ducts and flameless vented devices are necessary.

The design of explosion suppression systems at elevators is in principle possible if the detection systems can be improved and optimized. For this further investigations are necessary.

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