

Lightning protection for roof structures



Güntner condensers equipped with lightning protection

Roof structures are a meaningful way of efficiently utilising space for electronically controlled air conditioning and ventilation equipment. However, the risk of possible lightning strikes means that additional safety requirements apply to these external structures. Professional lightning protection for conductive connections into the building interior should therefore be included in system planning at an early stage.

In order to provide complex roof structures such as ventilation and drycooling systems with reliable protection, an insulated or partially insulated lightning protection system is required. An appropriate air terminal using lightning rods or surge protection for the entire system can be precisely adapted to local condi-

tions and the built-on system structures. The mesh method, the shielding angle method or the lightning sphere method described in DIN VDE 0185 part 3 may be used, depending on requirements. The method that will actually be used depends on the applicable lightning protection classes. These should be worked out by the responsible specialist planner so that the lightning protection equipment can be integrated in overall system planning right from the start.

For example, if a partially insulated lightning protection system is installed, a special air terminal is set up if the mesh method is used, and roof structures are also provided with an insulated air terminal. For larger roof structures it would be possible to give the entire system



surge protection using a lightning conductor that is attached to insulated conductor supports and tension towers. This method would avoid inadmissible proximity to individual roof structures. Furthermore, surge protection and potential equalisation must also be taken into consideration. After installation the system must be checked by an independent expert so that the safety of the lightning protection equipment can be confirmed in accordance with the applicable standards.