

S1.1.1 ASSESSING THE RELATIONSHIP BETWEEN THE CHOICE OF AIR FILTERS FOR GENERAL VENTILATION AND INDOOR AEROSOL CONCENTRATIONS

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The calculation of indoor particulate matter concentrations requires several assumptions, and considerable data. The first assumption is a model of the ventilation system with its supply, recirculation, discharge and leakage flows into and from the space of concern. This information is generally available from heating and cooling load analysis, which is well documented and supported with convenient computer programs. Particulate matter in the space depends on these flows, on several parameters of both indoor particulate sources and outdoor particulate patterns, and on the location and efficiency of the filters in the ventilation system. Our paper reports the results of an ongoing literature survey which seeks to define these parameters for various building locations and uses. We show how the efficiency calculation concepts contained in ISO 16890 can be applied to calculation of indoor particulate matter concentrations, and the limitations of these procedures under the present state of particulate filtration knowledge.