VDI- Guidelines published January – March 2011

January:

VDI 3551: Electromagnetic compatibility (EMC) in building services

The guideline provides guidance on how to interconnect individual devices and system components subject to the EMC Act in such a way that the overall installation thus formed does not cause any electromagnetic interference in devices/equipment/installations/systems nearby, and that the functioning of the installation proper is not disturbed by interference from other devices.

VDI 4708/1: Pressure control, venting, deaeration; Pressure control *(Draft Guideline)*

This guideline applies to the media circulation in heating systems where the interruption of operation or of forced circulation is a regular occurrence (e.g. interruption of heating in summer) during operation. It describes the dimensioning of pressure-maintenance systems and the testing of such systems during operation and maintenance. Pressure relief and safety equipment are not the subject of this guideline. The guideline supplements existing guidelines for the design, manufacture and testing of the pressure-maintenance, deaeration and degassing systems or their system components with respect to thermo-hydraulic integration into the fluid circulation in terms of recommendations and dimensioning guidelines.

VDI BV/BS 6000/1.1: Provision and installation of sanitary facilities; Generic aspects and systems; Prefabricated sanitary modules (prefabricated sanitary rooms, installation systems) *(Draft Guideline)*

The guideline applies to prefabricated sanitary elements in new construction, in the remodeling of existing buildings, for permanent sanitary facilities in mobile units such as ships, trains and other means of transportation. It does not apply to sanitary containers installed in mobile buildings destined for repeated installation and removal. The guideline applies to wall modules, panels, prefabricated restrooms, installation systems, ready-made toilets. The guideline states requirements to be met by architectural and structural conditions, stability, building physics, building services, transport and storage, installation. General planning of sanitary areas in buildings is not a topic of this guideline. The equipment for various types of buildings is described in VDI 6000 Part 1 through Part 6.

February:

VDI 2067/22: Economic efficiency of building installations; Energy effort of benefit transfer for heating potable water

This guideline applies to all systems for heating potable water (see also DIN 1988) in buildings. It is used to determine the energy, water and auxiliary energy effort for the benefit transfer.

The guideline covers the calculation of the energy effort and the benefit transfer in systems for heating potable water. The calculation processes and reference values contained in this guideline are used in connection with VDI 2067 Part 12 for the property-related calculation of the energy expenditure for usage and benefit transfer. In a cost calculation in accordance with VDI 2067 Part 1, the energy efforts for the (heat) thermal distribution and heat generation must be taken into account.

VDI 2083/17: Cleanroom technology; Compatibility with required cleanliness class and surface cleanliness *(Draft Guideline)*

The guideline deals with particulate and chemical (molecular) contaminations and electrostatic characteristics of materials and the cleanability of surfaces. Biological and radiological contaminations are not a specific subject of this guideline. The guideline defines the cleanliness compatibility and cleanroom compatibility for materials. Based on this, a classification is made, and procedures are specified for determining the suitability for the intended use in clean production areas.

VDI 3810/1: Operation and maintenance of building installations; Fundamentals *(Draft Guideline)*

The series of guidelines VDI 3810 gives recommendations for the various building services and trades regarding safe, specified, demand-oriented and sustainable operation. The guidelines describe the prerequisites for fulfilling the operator's obligations, safe operation of installations, economic efficiency and environmental compatibility. Furthermore, they contain practical recommendations for operating and maintaining building-services installations. Installation owners and operators are obliged to operate installations in accordance with the acknowledged rules of technology or state of the art, depending on the object in question.

VDI 6034: Cooling surfaces for rooms; Planning, installation and operation

When it comes to the planning, construction and operation of liquid-cooled room cooling surfaces integrated into ceilings, walls and floors, or of systems with cooled massive building components, experts differ about the proper procedures. It is not only the cooling power output but also many other questions of detail that still want a harmonised procedure for planning and execution. For instance, how to deal with the result of a cooling-load calculation when using a room cooling surface? What is the state of the art regarding the selection of materials? What special requirements are to be taken into account in dimensioning the hydraulic system, the room temperature control and fire protection? This guideline is intended to provide more clarity on all these issues and to close a gap, with the aim of improving security in dimensioning the systems, promoting fair competition, and creating more transparency for all those involved in order processing.

March:

VDI 2073/2: Hydraulic systems in building services; Hydraulic balancing *(Draft Guideline)*

This guideline applies to the dimensioning of new, and verification, by calculation, of existing, distribution systems for heating and chilling in HVAC installations; its particular aim is the reproducible hydraulic balancing of an installation as planned.

"Hydraulic balance" as stipulated in standards and ordinances is the generic term for a requirement to be met in dimensioning and adjusting of distribution systems, particular in hot-water heating systems. In a stricter sense it means ensuring the intended distribution of flows to handover locations (space-heating surfaces, chilling surfaces, heat exchangers and similar) by selecting proper piping and calculating and adjusting regulating resistances. In addition to ensuring the indispensable function "distribution of intended flows", it is a further aim to minimise the expenditure in heating and cooling energy for handover, and the pumping energy required for water circulation.

VDI 4710/3: Meteorological data for the building services; t,x correlations from 1991 to 2005 for 15 climatic zones in Germany

Since 1979, it has been common practice, particularly in DIN 4710, to compile the basic data of outdoor-air temperature (t) and water vapour content (x) in the form of t-x correlations. Initially, the data from 1951 to 1970 served as the basis for West Germany. When the standard was revised in 2003, in cooperation with the DWD (German Meteorological Service), the data gathered at 15 stations between 1961 and 1990 were published. The concept for the compilation of the correlation tables of air temperature and water vapour content in air, the so-called t-x correlations, so far consisted in using the respective hourly values measured over the 30 years of the currently completed climate normal period, i. e. presently from 1961 to 1990.

Since the end of the nineteen-eighties, the air temperature has kept rising. To give better consideration to the obvious climate change in the air-temperature regime when planning building services, the t-x correlations have been re-calculated, and published in this VDI guideline, for the 15-year period from 1991 to 2005, which corresponds to half of the current climate normal period.

VDI 6028/6: Assessment criteria for Building Services; Requirements profiles and valuation criteria for the building automation *(Draft Guideline)*

The guideline tries to offer a method allowing an objective and holistic evaluation of offers for building automation. The guideline compiles technical specifications and profiles of requirements for building automation. Based on these, evaluation criteria as per VDI 6028 Part 1 are described. Lists allow to select those criteria for a building project which have to be observed at a given time. These lists can be supplemented by orderers' specifications in all cases. The guideline is addressed to orderers, object and technical planners, executing companies, users and operators. This guideline is only valid in conjunction with VDI 6028 Part 1.