Revision 1 of EN 14509
Changes and News

Klaus Berner/Ute Pfaff[D1]

Date: Oct. 2013

Table De: Insulating

[D1] comments given by Dr.-Ing. Ralf Podleschny

Table De: Insulating

Pt	Topic	Chapter	Changes in Rev 1	Kind of changes	Comparison with the previous edition	Comments[D1]
1	Design thermal conductivity	A.10.2.1.2	For panels created by adhesive bonding of metal faces to preformed cores, which are subject to thermal conductivity ageing in the absence of the metal faces, the 90/90 declared values shall be determined using the measured thermal conductivity of the preformed core at time of bonding as initial value and adding ageing increments in accordance with EN 13164 for XPS, EN 13165 for PUR and EN 13166 for PF (ageing increments for products with diffusion tight facings). Alternatively the 90/90 declared aged value quoted by the manufacturer for the preformed core product shall be used. For auto-adhesively bonded PUR cores the aged core thermal conductivity value shall be derived from EN 13165, either by applying the ageing procedure given in EN 13165, C.4.2, or the fixed increment procedure given in C.5. of EN 13165	changed	Where preformed core products, which are subject to thermal conductivity ageing in the absence of the metal faces are used in the manufacture of the sandwich panel, the correct aged core design value shall be used. For panels created by separately bonding metal faces to a preformed core, values in accordance with EN 13165:2001 including Amendments A1 and A2, shall be determined using either the actual thermal conductivity of the core determined at the time of lamination in accordance with C.3, or alternatively the aged value quoted by the manufacturer for the core product.	The determination and declaration of the relevant values for thermal conductivity should be considered in detail separately Comments and explanations are expected and worked out of the EPAQ standardization committee

[D1] comments given by Dr.-Ing. Ralf Podleschny

Table De: Insulating

Pt	Topic	Chapter	Changes in Rev 1	Kind of changes	Comparison with the previous edition	Comments[D1]
2	Design thermal conductivity	A.10.3	The thermal transmittance ($U_{d,S}$) of the panel shall take account of the profile geometry of the panel and the thermal influence of the longitudinal joint and shall either be determined by calculation (Formula (A.28)), or using a computer program in accordance with EN ISO 10211 (Finite Element Method).	changed		In A 10.3 the design of $U_{d,S}$ is regulated on the base of the given formulas by exact calculations according to A.28 or by using computer software (normal case) on the base of EN ISO 10211-1 und EN ISO 10211-2. Hereby the influence of the longitudinal joint is included.
	Examples of additional thickness due to the main profiles ($\Delta e_{i,e}$), mm for trapezoidal and for sinusoidal geometry	Table A.2 Table A.3	New and changed values			Regarding the influence of the geometry of profiled faces there are given in 2 tables new Δe-values for trapezoidal and waved sheets.

[D1] comments given by Dr.-Ing. Ralf Podleschny

Table De: Insulating

Pt	Topic	Chapter	Changes in Rev 1	Kind of changes	Comparison with the previous edition	Comments[D1]
3	Simplified method for the calculation of the thermal transmittance of a panel ($U_{d,S}$)	A.10.4	Alternatively the thermal transmittance of a panel $U_{d,S}$ can be calculated with a simplified method by using Formula (A.30) neglecting the influence of the profiled faces and using the linear thermal transmittance contribution factor of the joints (f_{joint}) obtained from Table A.4 for steel faces according to the generic type of joint (see Figure A.20). The design thickness d_d (see Table A.4), to determine the thermal-bridge effect of the longitudinal joint is given by Formula (A.31).			In A.10.4 a simplified method is given for the calculation of the thermal transmittance of a panel ($U_{d,S}$) by using of the formula (A.30), neglecting the influence of the profiled faces (Δe-values) and using of the factor (f_{joint}), given in table A.4 for thermal transmittance contribution for steel faces. In A.10.4 is therefore consequently regulated a calculation per „hand“ on the safe side. The table for f_{joint}-values is expanded for thinner elements (special for Southern Europe) and for further 3 joint types.

[D1] comments given by Dr.-Ing. Ralf Podleschny