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Confirmation on insulation in applications where planar product needs to be applied in linear form

The SBI test according to EN 13823, where mounting is done according to EN 15715 and where classification of fire performance is done according to EN 13501-1, leads to a "gap" of testing and classification possibilities (namely starting from 160 mm outer diameter of the insulated item) which results in the fact that

- a) linear applications (suffix "L" in fire rating = insulation with tube, e.g. B_L-s1,d0) are classified up to the biggest tube dimension, and that
- b) "planar" applications, where insulation with sheet is classified, by norm definition start from an outer diameter of 300 mm (DN 280 to DN290, depending on material and norm, e.g. B-s2,d0).

As an example, the Kaiflex® KKplus s1 *tube* range (classified B_L-s1,d0) currently ends with 32x89 as biggest dimension, and continues with KKplus s1 *sheet* (classified B-s1,d0) from 300 mm ahead. The "test gap" can be closed by using Kaiflex® KKplus s2 sheet applied in linear form, means, as "open tube", but only since

- 1) both tube and sheet are classified in the same insulation thickness range -
→ this criterion is fulfilled: up to 32 mm for tube and up to 32 mm for sheet; and
- 2) the composition (recipe) is identical for KKplus s1 tube and KKplus s2 sheet -
→ this criterion is fulfilled as it is herewith confirmed that the recipe for KKplus s2 sheet and KKplus s1 tube is identical.

→ As both criteria are completely fulfilled KKplus s2 sheet may be considered and applied as linear (=pipe insulation) material where B_L-s1,d0 is required.

The reason why such identical material is classified differently when tested as tube or as sheet is in the limit values provided by the classification norm EN 13501-1 which are significantly more tolerant for linear than for planar products. Therefore, a KKplus s2 sheet bent round a big pipe is equivalent in performance and in classification as a respective big KKplus s1 tube would be. However, note: if a classified tube in B_L-s1,d0 is available the application may not be carried out using sheet! Means, KKplus s2 sheet may only be used from pipe diameters of 92 mm ahead (89 mm + tolerance).

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