As far back as 1987, the Association of German Engineers (VDI) published a guide entitled “Acoustic Insulation of Windows and Additional Window Fittings”, containing information about the sound insulation of windows when installed. The long-established German “sound reduction classes” refer to windows in their installed state as described in Table 2 of this guide (see Table 1); it also defines various requirements for installation.

Tab. 1 Definition of sound reduction classes as per VDI 2719:1987, Table 2 [11]

Column	1	2	3
Row	Sound reduction class	Weighted sound reduction index (R'_w) of the window mounted ready for operation in the building structure, measured in dB as per DIN 52210, Part 5	Required weighted sound reduction index (R_w) of the window mounted ready for operation in the test rig (P-F), in dB as per DIN 52210, Part 2
1	1	25 to 29	≥ 27
2	2	30 to 34	≥ 32
3	3	35 to 39	≥ 37
4	4	40 to 44	≥ 42
5	5	45 to 49	≥ 47
6	6	≥ 50	≥ 52

The guide says the following about installation:

“For sound reduction classes 1 or 2 it is generally sufficient to tightly fill or stuff the wall connecting joint with soundproofing material.

For sound reduction classes 4 or 5, non-setting sealing compound must additionally be applied to both sides of the joint to ensure leaktight backfilling with soundproofing material.

No general statements can be made regarding sound reduction class 6.

Note: all sealing work must be carried out in accordance with the instructions of the manufacturers of the sealants, sealing profiles, membranes, films, foils and foams used, and according to the installation instructions of the window manufacturer. Special care must be taken when designing/detailing and executing these tasks in the area of the window sill.”