

DIN ISO 15665:2026-04 (E)

Acoustics - Acoustic insulation for pipes, valves and flanges (ISO 15665:2023)

Contents

Page

Foreword.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Classes of acoustic insulation.....	3
5 Guidance to the reduction of noise from pipes.....	6
5.1 Required insertion loss: design phase steps.....	6
5.1.1 Determination of sound pressure levels.....	6
5.1.2 Evaluation of sound pressure levels against limits.....	7
5.1.3 Determination of sound power levels.....	7
5.1.4 Contribution to noise in reverberant spaces or environmental noise.....	8
5.2 Required insertion loss: operating plants.....	8
5.3 Length of acoustic insulation.....	9
5.4 Implications for piping design.....	10
5.5 Derivation of overall noise reduction.....	11
5.6 Typical noise reduction values.....	13
6 Construction of typical acoustic insulation systems.....	14
6.1 General.....	14
6.2 Cladding.....	14
6.2.1 General.....	14
6.2.2 Materials for the outer layer.....	14
6.2.3 Materials for an additional layer.....	15
6.2.4 Vibro-acoustic seals.....	15
6.3 Porous layer.....	16
6.4 Support of the cladding.....	16
6.5 Vibration isolation material at pipe supports.....	17
7 Installation.....	17
7.1 General.....	17
7.2 Extent of insulation.....	17
7.3 End caps.....	18
7.4 Acoustic enclosures and jackets.....	18
7.5 Prevention of mechanical damage.....	18
8 Combined thermal and acoustic insulation.....	18
8.1 General.....	18
8.2 Hot services.....	19
8.3 Cold services.....	19
9 Testing of acoustic insulation systems.....	19
9.1 General.....	19
9.2 Measurement method: Field measurement.....	19
9.2.1 Sound power insulation, D_W	19
9.2.2 Sound pressure insulation, D_p	19
9.3 Measurement method: reverberation room.....	21
9.4 Test facility.....	21
9.4.1 Test room.....	21
9.4.2 Installation.....	21
9.4.3 Pipe dimensions.....	22

9.5	Sound source	23
9.6	Test specimen	23
9.7	Measurements	23
9.8	Results	24
9.9	Information to be reported	24
Annex A (informative) Acoustic insulation constructions that can meet the insulation class requirements		26
Annex B (informative) Equations for the calculation of the minimum required insertion loss $D_{W,min}$ of the insulation classes		29
Annex C (informative) General construction of acoustic insulation		30
Annex D (informative) Examples of typical construction details		31
Bibliography		42