Sound reduction index according to ISO 10140 - 2

Laboratory measurement of airborne sound insulation of building elements

Client: FAIST Anlagenbau GmbH, 86381 Krumbach, Germany

Product designation ST-1 53

ift ROSENHEIM

Design of test specimen

single-leaf steel door

Mass per unit area	90 kg/m²
Door frame	steel corner frame
BRM	1,000 mm × 2,000 mm
Door leaf	single rebate
dimensions	975 mm × 1978 mm
Type, material	steel door
Thickness	103 mm
Seal	
Rebate seal	2 frame rebate seals continuous around perimeter
Floor seal	without separate floor seal

Test date	11 January 2011
Test surface S	1.01 m × 2.01 m = 2.03 m²
Test rig	acc. to EN ISO 10140-5
Partition wall	Double-leaf concrete wall, insert frame
Test noise	pink noise
Volumes of test rooms	V_S = 104 m³ V_r = 67.5 m³

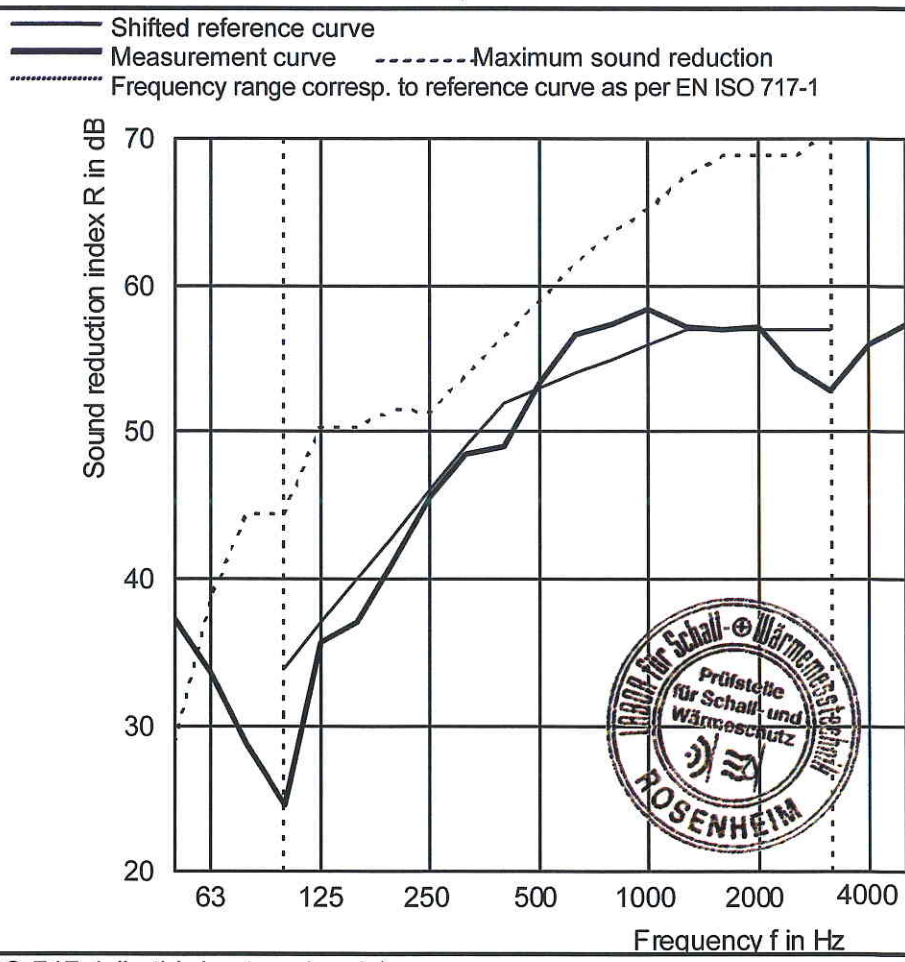
Maximum sound reduction index
$R_{w,max}$ = 63 dB (related to test surface)

Mounting conditions
Door frame mounted to test opening and screwed in place. Connecting joints sealed on both sides with plastic sealant.

Climate in test rooms 20 °C / 40 % RF

Static air pressure 955 hPa

f in Hz	R in dB
50	>37.3
63	33.6
80	28.8
100	24.5
125	35.6
160	37.1
200	41.3
250	45.5
315	48.5
400	49.0
500	53.4
630	56.6
800	57.3
1000	58.3
1250	57.1
1600	57.0
2000	57.2
2500	54.4
3150	52.9
4000	56.0
5000	57.4



Rating according to EN ISO 717-1 (in third octave bands):

R_w (C;C_{tr}) = 53 (-3;-10) dB

$C_{50\text{-}3150}$ = -3 dB; $C_{100\text{-}5000}$ = -2 dB; $C_{50\text{-}5000}$ = -3 dB

$C_{tr,50\text{-}3150}$ = -11 dB; $C_{tr,100\text{-}5000}$ = -10 dB; $C_{tr,50\text{-}5000}$ = -11 dB

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J. Hessinger

Dr. Joachim Hessinger, Dipl.-Phys.
Head of Testing Department