Bolton Gate Company

ACOUSTIC ROLLER SHUTTER—SONAROLL

Acoustic Rated Insulated Roller Shutter

Data Sheet ref. Acoustic 1 January 23

ACOUSTIC ROLLER SHUTTER - SONAROLL

SPECIFICATION SUMMARY

The Sonaroll is Bolton Gate Company's purpose built acoustically rated rolling shutter. This sound reducing door system combines several features and benefits into one high quality attractive design.

In addition to acting as a secure and weather resistant closure, the shutter offers significant acoustic and also thermal insulation properties.

Extensively tested at the Department of Acoustics at Salford University, the door achieved a maximum sound reduction of 27.2dB (at 5000Hz) with a 22dB RW, which is considerably higher than other similar roller shutters on the market.

A special double curtain arrangement is also available. This provides significantly increased acoustic performance with a maximum of 39.8dB (at 2000Hz) and 33dB RW rating.

Applications include:

The Sonaroll is ideal for any application where an acoustic rating is a requirement. It has been successfully installed in TV studios, recording studios, theatres and exhibition halls but also more industrial applications such as turbine halls, boiler rooms, loading bays and warehouses and then also schools, serveries and reception areas.

Performance Characteristics:

Sound Reduction: 22db RW (single curtain)
33dB RW (double curtain)
Thermal Resistance: 1.1W/(m^2K) at centre
3.2W/(m^2K) at quirks
Resistance to Windload: Class 5

Accreditations:

BS EN ISO 10140-2:2010—Measurements of Airborne Sound Insulation.

Key Attributes:

High level of acoustic insulation.
Thermal properties.
Bespoke, compact design.

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Operation
Electric operation is provided by a 400-volt nominal, 3 phase, direct drive motor complete with integrated safety brake.

A manual disconnect mechanism complete with haul chain is provided for use in the event of power failure.

Open / Close / Stop push button controls are integrated within the face of the low level control panel.

A 230-volt, 1 phase tubular motor option is also available (depending on opening size) in addition to a whole array of optional control equipment that can be provided for both drive options. Please discuss your requirements with our technical sales team.

Curtain
The shutter curtain is constructed from acoustically rated 100mm high foam bonded continuously interlocked galvanised steel laths with a flat profile. The laths are securely held in place using black nylon end locks.

Bottom Rail
The bottom rail comprises a standard lath fitted with a black trim section carrier and rubber weather seal.

Side Guides
Vertical guides are formed from rolled galvanised steel in a double rebate profile with twin brush strips. Full height angles are provided for mounting to the structure.

Roller
The roller is constructed from seamless steel tube of adequate diameter to resist deflection and held in bearings or cups attached to the endplates.

Endplates
Zinc plated mild steel of appropriate thickness relative to door size and supplied with angles for fixing to the structure.

Casings
A galvanised steel coil casing and motor casing are provided as standard to close off the operating mechanism and complete the aesthetic appearance of the door.

A full span acoustic infill is also mounted directly below the coil casing (provides an additional 1dB under test conditions).

Finish
Galvanised steel is the default finish but please refer to Options below for alternatives.

Maximum Sizes
10000mm wide x 10000mm high

Weight
Varies with opening size dependent on lath/barrel/casing requirements but approximately 50kgs/m^2.

Options
- Tube motor operation.
- Increased RW using double curtain arrangement.
- Polyester powder coat finish.
- Plastisol finish to curtain, remaining components with a polyester powder coat finish.
- Grade 304 or 316 stainless steel.
- Additional electrical controls e.g.:-
  - Keyswitches
  - Radio controls
  - Radar / loop detectors / photocells.
  - Timer closing.

To specify this product please state:
Acoustic Roller Shutter — Sonaroll shall be by Bolton Gate Company Ltd, Waterloo Street, Bolton BL1 2SP, UK
Tel: 01204 871001;
E-mail: sales@boltongate.co.uk **Web:** www.boltongate.co.uk

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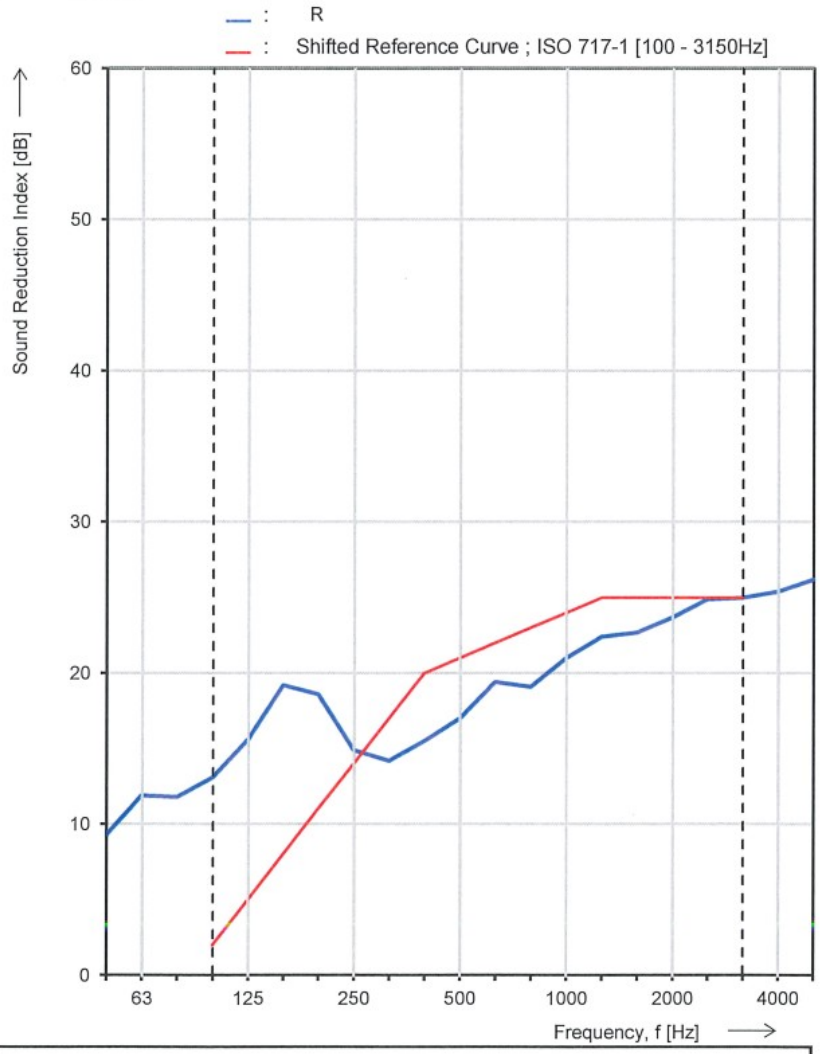
Extract taken from test report by Salford University Acoustic Department without the horizontal acoustic infill:

Source Room Volume:	141 m^3	Ambient Pressure:	101.0 kPa
Source Room Temperature:	21.8 °C	Measured Mass per unit area:	19.0 kg/m^2
Source Room Relative Humidity:	40.5 %	Curing Time:	Not Applicable
Receiving Room Volume:	217 m^3		
Receiving Room Temperature:	21.0 °C		
Receiving Room Relative Humidity:	37.4 %		

Frequency f [Hz]	R ⅓ octave [dB]
50	9.3
63	11.9
80	11.8
100	13.1
125	15.6
160	19.2
200	18.6
250	14.9
315	14.2
400	15.5
500	17.0
630	19.4
800	19.1
1000	21.0
1250	22.4
1600	22.7
2000	23.7
2500	24.9
3150	25.0
4000	25.4
5000	26.2



Rating according to BS EN ISO 717-1

R_w (C;Ctr) = 21 (0 ; -2) dB

$C_{50\text{-}3150}$ = 1 dB ; $C_{50\text{-}5000}$ = 0 dB ; $C_{100\text{-}5000}$ = 0 dB

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

Evaluation based on laboratory measurement results obtained in one-third-octave bands by an engineering method.