



10/01/11

**Acoustic & Fire Door Solutions Ltd**

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**FAO Ken Shepherd**

Acoustic Performance of S3K based doorsets (including Silentdor and TriSound DB+)

Dear Sir;

Further to conversations and recent test work I have investigated the acoustic performance of the S3K based doorsets (currently branded as Silentdor and TriSound DB+). The S3K based doorset has been subject to extensive testing of both single and double leaf configurations at SRL sponsored by Norsound Ltd and the use of the results of these tests in this assessment has been approved by Norsound Ltd.

**Proposal**

It is proposed that the SRL test results are to be used in making an Assessment of acoustic performance for configurations that were not tested at SRL. The configurations to be assessed are as follows:

- Single Leaf Single Swing (SLSS) with 15mm Pyrostop glazing and Seal Set A/1
- Single Leaf Single Swing (SLSS) with 15mm Pyrostop glazing and Seal Set B/2
- Double Leaf Single Swing (DLSS) with 15mm Pyrostop glazing and Seal Set C/3

**Data**

1. SRL Test 5 – 17/11/09 achieved a measured performance of Rw39dB for a SLSS doorset with no glazing using Seal Set A (Seal Set 1 for Silentdor) consisting of NOR710, NOR810/810S
2. SRL Test 3 - 17/11/09 achieved a measured performance of Rw41dB for a SLSS doorset with no glazing using Seal Set B (Seal Set 2 for Silentdor) consisting of NOR710, NOR720, NOR810/810S
3. SRL Test 2 – 03/02/10 achieved a measured performance of Rw38dB for DLSS doorset with no glazing fully caulked
4. SRL Tests 12 & 14 achieved a measured performance of Rw40dB for a DLSS doorset with 15mm Pyrostop glazing, fully caulked
5. SRL Test 6 – 03/02/10 achieved a measured performance of Rw34dB for a DLSS doorset with no glazing using Seal Set C (Seal Set 3 for Silentdor) consisting of NOR710, NOR720 and NOR810/810S
6. SRL Test 7 – 03/02/10 achieved a measured performance of Rw38dB for a DLSS doorset of the same detail as Test 6 above but with an additional NOR650 stepped threshold
7. SRL Test 11 – 03/02/10 achieved a measured performance of Rw36dB for a DLSS doorset with 15mm Pyrostop glazing using Seal Set C (Seal Set 3 for Silentdor) consisting of NOR710, NOR720 and NOR810/810S

**Observations**

When reviewing items 3 and 4 and items 5 and 7 it can be seen that an increase in performance of around Rw2dB can be achieved by addition of 15mm Pyroguard to a flush doorset of the same detail, and this can be demonstrated as being the case across a range of different performance levels. If the Rw2dB performance increase is applied to items 1 & 2 above it can be seen that performance of Rw41dB and Rw43dB could be expected for SLSS glazed doorsets using Seal Sets A(1) and B(2), were the respective configurations to be tested to BS EN ISO717-1:1997, individual atmospheric condition and doorset conditioning differences notwithstanding.

When applying the increased performance gained from analysis of items 3 & 4 and 5 & 7 to item 6, backed up by a known fully-caulked performance of Rw40dB (item 4), it can be seen that a performance of Rw40dB for a DLSS doorset glazed with 15mm Pyrostop, using Seal Set C(3) and an NOR650 stepped threshold could be expected were the configuration to be tested to BS EN ISO717-1:1997, notwithstanding individual atmospheric condition and doorset conditioning differences.



### Conclusion

It is my conclusion that the following expected performances could be justified were the configurations to be tested to BS EN ISO717-1:1997, notwithstanding individual atmospheric condition and doorset conditioning differences:

| Configuration | Acoustic Seal Set | Floor Threshold   | Glass Type     | Assessed Acoustic Performance |
|---------------|-------------------|-------------------|----------------|-------------------------------|
| SLSS Glazed   | A (1)             | None <sup>1</sup> | 15mm Pyroguard | Rw41dB                        |
| SLSS Glazed   | B (2)             | None <sup>1</sup> | 15mm Pyroguard | Rw43dB                        |
| DLSS Glazed   | C (3)             | NOR650 stepped    | 15mm Pyroguard | Rw40dB                        |

Note 1: The NOR810/810S dropseal requires a hard surface to operate onto (e.g. floor tiles). Where this is not available a solid threshold strip such as NOR625 will be required.

### Conditions

This report is solely the opinion of the author based on experience and test data extrapolation. The Report may be supplied to third parties as required in support of acoustic performance evidence solely with respect of S3K based doorsets, doors, cores and blanks (including those currently branded Silentdor and TriSound DB+) on condition that any product is constructed strictly in accordance with the methods used in the testing process, which are detailed in the relevant Method Statements available from AFDS Ltd. The content of this report and it's data references, and copyright thereof, remains the property of the author and the owners of the test data used by permission respectively. On no account is the Data section of this report to be used as sole evidence or in support of sole evidence relating to anything other than the specific proposal detailed within the Proposal section of this document.

I trust the above is satisfactory but should you have any further queries please contact me.

Yours Faithfully

Chris Gough  
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