

# ACOUSTICALLY INSULATED SONODEC®



The **SONODEC®** series consists of a perforated aluminum laminate inner duct, a polyester barrier to prevent the diffusion of glass wool particles, thermally and acoustically insulated with a glass wool layer and provided with an outer jacket strengthened with glass fibre.

The **SONODEC®** fulfills all the requirements and are classified as specified within:  
**EN 13180** : "Ventilation for buildings-Ductwork- Dimensions and mechanical requirements for flexible ducts"

To select the appropriate thermally and acoustically insulated product, consult the tables on the next page.

## Applications in practice

- Air-conditioning systems
- Air supply systems
- Preventing condensation in air ventilation systems
- Decreasing of machine noises
- Consult the selection tables

## Restrictions in the range of applications

The **SONODEC®** ducts are not suitable for transporting air with a high concentration of acid and base. Neither are the **SONODEC®** ducts suitable for discharging combustion gases.

## PLEASE NOTICE:

The consultant is responsible for the actual installation and mounting of the product. The mentioned values with respect to temperatures are not appropriate to be used to determine the physical properties. These properties are also dependent on humidity and the temperature of the air inside and outside of the H.V.A.C. system.

|                                  | SONODEC®<br>25                  | SONODEC®<br>250     | SONODEC®<br>250CE |
|----------------------------------|---------------------------------|---------------------|-------------------|
| <b>Mechanical properties</b>     |                                 |                     |                   |
| Temperature range (°C)           |                                 |                     |                   |
| inner duct                       | -30 - +140                      | -30 - +250          | -30 - +250        |
| outer duct                       | -30 - +140                      | -30 - +140          | -30 - +140        |
| Maximum operating pressure (Pa)  | +2500                           | +2500               | +2500             |
| Maximum air velocity (m/s)       | 30                              | 30                  | 30                |
| Diameter range (mm)              | 76 - 508                        | 65 - 635            | 102 - 508         |
| <b>Fire classes according to</b> |                                 |                     |                   |
| The Netherlands (NEN 6065/6066)  | 1                               | 1                   | x                 |
| Germany (DIN 4102)               | B2                              | B1                  | x                 |
| France (CSTB)                    | M1                              | M0/M1               | M0/M1             |
| Switzerland (BKZ)                | x                               | 5.2                 | x                 |
| United Kingdom (BS 476)          | 6, 7 and 20                     | 6, 7 and 20         | x                 |
| Austria (B3800)                  | B1                              | B1                  | x                 |
| Italy (CSI)                      | 1-0                             | 1-0                 | x                 |
| <b>Technical data</b>            |                                 |                     |                   |
| Article code                     | DS{Ø}/Length                    | DSX{Ø}/Length       | DSXCE{Ø}/Length   |
| Material structure               | see product specific properties |                     |                   |
| Construction                     | see product specific properties |                     |                   |
| Wire spacing inner duct          |                                 |                     |                   |
| upto Ø 102                       | 25 mm                           | 25 mm               | -                 |
| Ø 102 and larger                 | 36 mm                           | 18 <sup>1)</sup> mm | 36 mm             |
| Minimal bending radius           | 0.54 x Ø + ↓                    | 0.58 x Ø + ↓        | 0.54 x Ø + ↓      |
| Standard length (meters)         | 10                              | 10                  | 10                |
| Standard color                   | aluminium                       | aluminium           | aluminium         |

x = not been tested

↓ = thickness of the glass wool

<sup>1)</sup> = two different wires have been used alternately

## Product specific properties

### SONODEC® 25

The **SONODEC® 25** is also available, on request, with a 50 mm glass wool layer, the article number is: DS50{Ø}

- Material structure:
  - perforated aluminum laminate / barrier / glass wool / aluminum laminate
- Construction:
  - inner duct : aluminum, polyester laminate
  - barrier : closed polyester film
  - glass wool blanket : 25 (or 50) mm, 16 kg/m<sup>3</sup>
  - outer jacket : aluminum, polyester laminate
- R-value glass wool : 0.69 (25 mm) or 1.4 (50 mm) m<sup>2</sup>K/W (ASTM C177-76)

### Sound attenuation

| SONODEC® 25            |            | (Test report nr. AB323-1 Peutz bv - The Netherlands) |     |     |      |      |      |
|------------------------|------------|--|-----|-----|------|------|------|
| D <sub>n</sub><br>(mm) | L<br>(mtr) | Attenuation, dB - Mid-frequency, Hz                  |     |     |      |      |      |
|                        |            | 125  | 250 | 500 | 1000 | 2000 | 4000 |
| 082                    | 1          | 16   | 26  | 33  | 38   | 28   | 17   |
|                        | 2          | 21   | 37  | 48  | 53   | 46   | 29   |
|                        | 3          | 29   | 45  | 49  | 54   | 57   | 38   |
| 102                    | 1          | 9  | 19  | 32  | 37   | 31   | 21   |
|                        | 2          | 19   | 33  | 52  | 53   | 49   | 36   |
|                        | 3          | 25   | 39  | 50  | 52   | 54   | 40   |
| 127                    | 1          | 12   | 20  | 21  | 25   | 29   | 17   |
|                        | 2          | 17   | 31  | 44  | 45   | 46   | 26   |
|                        | 3          | 23   | 46  | 44  | 47   | 51   | 34   |
| 160                    | 1          | 17   | 22  | 22  | 27   | 19   | 14   |
|                        | 2          | 31   | 39  | 34  | 38   | 31   | 20   |
|                        | 3          | 29   | 43  | 41  | 46   | 39   | 27   |
| 203                    | 1          | 7  | 15  | 17  | 20   | 16   | 13   |
|                        | 2          | 20   | 34  | 32  | 35   | 30   | 22   |
|                        | 3          | 18   | 40  | 38  | 41   | 39   | 30   |
| 254                    | 1          | 16   | 16  | 16  | 16   | 13   | 10   |
|                        | 2          | 26   | 31  | 28  | 33   | 25   | 18   |
|                        | 3          | 32   | 36  | 32  | 37   | 34   | 27   |
| 315                    | 1          | 11   | 12  | 12  | 14   | 11   | 7    |
|                        | 2          | 28   | 25  | 22  | 27   | 22   | 15   |
|                        | 3          | 27   | 32  | 28  | 34   | 28   | 19   |
| 457                    | 1          | 12   | 10  | 8   | 8    | 6    | 8    |
|                        | 2          | 20   | 17  | 15  | 16   | 13   | 12   |
|                        | 3          | 25   | 22  | 21  | 25   | 19   | 16   |
| 508                    | 1          | 8  | 8   | 8   | 9    | 6    | 7    |
|                        | 2          | 20   | 17  | 16  | 17   | 11   | 11   |
|                        | 3          | 24   | 22  | 20  | 25   | 15   | 14   |

## Product specific properties

### SONODEC® 250

The **SONODEC® 250** is also available, on request, with a 50 mm glass wool layer, the article number is: DSX50{Ø}

- Material structure:
  - perforated aluminium laminate / barrier / glass wool / aluminium laminate
- Construction:
  - inner duct : aluminum, polyester laminate
  - Barrier : closed polyester film
  - glass wool blanket : 25 (or 50) mm, 16 kg/m<sup>3</sup>
  - outer jacket : aluminum, polyester laminate
- R-value glass wool : 0.69 (25 mm) or 1.4 (50 mm) m<sup>2</sup>K/W (ASTM C177-76)

### Sound attenuation

| SONODEC® 250           |            | (Test report nr. AB323-2 Peutz bv - The Netherlands) |     |     |      |      |      |
|------------------------|------------|--|-----|-----|------|------|------|
| D <sub>n</sub><br>(mm) | L<br>(mtr) | Attenuation, dB - Mid-frequency, Hz                  |     |     |      |      |      |
|                        |            | 125  | 250 | 500 | 1000 | 2000 | 4000 |
| 082                    | 1          | 16   | 25  | 34  | 38   | 30   | 20   |
|                        | 2          | 22   | 37  | 48  | 54   | 46   | 30   |
|                        | 3          | 30   | 43  | 41  | 43   | 55   | 43   |
| 102                    | 1          | 11   | 25  | 31  | 36   | 23   | 15   |
|                        | 2          | 17   | 31  | 51  | 50   | 38   | 26   |
|                        | 3          | 20   | 44  | 51  | 52   | 51   | 33   |
| 127                    | 1          | 11   | 19  | 23  | 27   | 25   | 19   |
|                        | 2          | 17   | 31  | 43  | 43   | 35   | 22   |
|                        | 3          | 21   | 40  | 45  | 48   | 47   | 27   |
| 160                    | 1          | 15   | 26  | 22  | 27   | 18   | 13   |
|                        | 2          | 22   | 38  | 35  | 39   | 29   | 20   |
|                        | 3          | 33   | 43  | 39  | 43   | 39   | 27   |
| 203                    | 1          | 6  | 13  | 15  | 18   | 11   | 10   |
|                        | 2          | 15   | 31  | 32  | 38   | 21   | 18   |
|                        | 3          | 16   | 36  | 40  | 42   | 28   | 24   |
| 254                    | 1          | 9  | 11  | 12  | 10   | 7    | 11   |
|                        | 2          | 21   | 24  | 24  | 22   | 13   | 15   |
|                        | 3          | 29   | 33  | 31  | 30   | 19   | 24   |
| 315                    | 1          | 8  | 8   | 8   | 7    | 6    | 8    |
|                        | 2          | 16   | 15  | 14  | 13   | 9    | 13   |
|                        | 3          | 23   | 23  | 21  | 19   | 12   | 17   |
| 457                    | 1          | 8  | 8   | 6   | 6    | 5    | 7    |
|                        | 2          | 18   | 15  | 14  | 12   | 8    | 10   |
|                        | 3          | 24   | 21  | 20  | 18   | 11   | 15   |
| 508                    | 1          | 7  | 8   | 7   | 7    | 6    | 7    |
|                        | 2          | -  | -   | -   | -    | -    | -    |
|                        | 3          | -  | -   | -   | -    | -    | -    |

### SONODEC® 250 CE

- Material structure:
  - perforated aluminium laminate / barrier / glass wool / aluminium laminate
- Construction:
  - inner duct : aluminum, polyester laminate
  - Barrier : closed polyester film
  - glass wool blanket : 25 (or 50) mm, 16 kg/m<sup>3</sup>
  - outer jacket : aluminum, polyester laminate
- R-value glass wool : 0.69 (25 mm) or 1.4 (50 mm) m<sup>2</sup>K/W (ASTM C177-76)

The information contained in this brochure was current on the publication date. The Company reserves the right to make changes in details at any time without prior notice. In order to avoid misunderstandings, any interested party is advised to contact the Company checking for any changes in materials and/or information after this brochure was published.

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