# **ALUDEC**®

**ALUDEC**® ducts are flexible, strong laminate ducts for various purposes. The ducts consist of several layers of aluminium and polyester, with a spiral enclosed between the layer. The duct can be attached to round and oval connection parts without any problems. The fire resistance of the **ALUDEC**® ducts has been tested in several countries, according to current international standards. For specific information about the various ducts consult the product information page.



The **ALUDEC**® ducts have been constructed out of a "sandwich construction" developed by **DEC BV** trading under the name: **DEC International**®.

This means that the different layers of polyester and aluminium are overlapping each other completely. In case of fire, the system is able to function longer.

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

### **Applications in practice**

### ALUDEC® AA3 & ALUDEC® 245

- General air supply systems, without special demands
- Air conditioning systems, without special demands

## ALUDEC® 112

- Air supply systems, where a higher temperature resistance is required
- Air conditioning systems, where a higher temperature resistance is required
- Also see options in respect to house construction.

# Restrictions in the range of application

The **ALUDEC**® ducts are not suitable for discharging combustion products from open fireplaces and oil-fired boilers. Neither are the **ALUDEC**® ducts suitable for transporting air with a high concentration of acid and base.

### 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.

To select the appropriate **ALUDEC**®-product consult the table on the next page.

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# **ALUDEC®**

	ALUDEC® AA3	ALUDEC® 245	ALUDEC® 112
Mechanical properties			
Temperature range (°C)	-30 - +140	-30 - +140	-30 - +250
Maximum operating pressure (Pa)	2500	2500	3000
Maximum air velocity (m/s)	30	30	30
Diameter range (mm)	82 - 508	82 - 508	76 - 710
Fire class according to			
Europe (EN 13501-1)	B-s1, d0	B-s1, d0	A2-s1, d0
The Netherlands (NEN 6065/6066)	1	1	1
Germany (DIN 4102)	B2	B2	B1
France (CSTB)	M1	M1	MO
Switzerland (BKZ)	х	х	6Q3
United Kingdom (BS 476)	6, 7 and 20	6, 7 and 20	6, 7 and 20
Austria (B3800)	B1	B1	B1
Italy (CSI)	1	1	1
Technical data			
Article code	DA3{Ø}	DA245{Ø}	DA112{Ø}
Material structure	5 layer	5 layer	4 layer
Wire spacing			
Up to ø 102 mm	25 mm	25 mm	25 mm
ø 102 mm and larger	36 mm	18 mm	18 mm
Minimum bending radius	0.54 x Ø	0.58 x Ø	0.58 x Ø
Standard length (metres)	10	10	10
Standard colour	aluminum	aluminum	aluminum

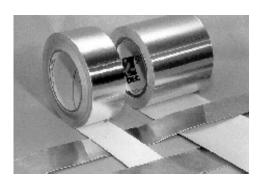
### x = not been tested

## **Determination of the acute toxicity**

• Stated by the "Institut für Arbeitsmedizin" of the medical faculty of the technical university of Aken. Under the supervision of prof. dr. med. H.J. Einbrodt (specialist) classified as "non toxic".

# **ALU TAPE**

**ALU-TAPE** is a strong aluminium foil-tape suitable for sealing in air conditioning systems and for insulation operations.



#### CONSTRUCTION

The tape has been built up out of an aluminium foil layer, inside provided with a rubber sealing coat.

The elongation is 5-7%, depending on the thickness.

#### **DELIVERY PROGRAM**

**ALU-TAPE** is standard available in two different widths: 50 and 75mm (100mm on request). The standard length is 45m per roll. The standard thickness is 30 microns. Ordering code **ALU{width}**.

A thickness of 40 microns is available as well. The 75mm **ALU-TAPE** with a thickness of 40 microns can be ordered in the following way: **ALU075/40**.

### OPERATING TEMPERATURE.

**ALU-TAPE** is suitable for application within the following temperature range: -10 up to  $+90^{\circ}$ C. The processing has to take place between  $-5^{\circ}$ C and  $+40^{\circ}$ C.

### **OPERATING PRESSURE**

**ALU-TAPE** is suitable for processing until an over pressure of: +1000Pa.

### ADHESION

The adhesion is 38N/2.5cm after 24 hours if the surface is fat-free and dust-free. The ultimate tensile strength is 65-70N/2.5cm.

### FIRE RESISTANCE

The **ALU-TAPE** with a thickness of 30 microns has been classified into class B PA111 2.2266, according to DIN 4102 (Germany). It has also been classified into class 1, according to BS 476, part 6 & 7 (United Kingdom).

The **ALU-TAPE** with a thickness of 40 microns has been classified into class M1, according to the CSTB (France). It has also been classified into class 1 according to BS 476, part 6 & 7 (United Kingdom).

#### **STORAGE**

**ALU-TAPE** has a lifespan of one year within the temperature range  $+10^{\circ}$ C and  $+30^{\circ}$ C if the packaging is dry and sealed.

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# **COLD SHRINK TAPE ASB**

**ASB** is a coiling, self-vulcanizing tape for using inside and outside. The tape is particularly appropriate for sealing ducts. The tape is also suitable for sealing seams and cracks in gutters, dome lights etc. The tape can be painted over for aesthetic reasons.



### CONSTRUCTION

The tape has been built up out of 2 layers. The outer layer is an aluminium- foil with a thickness of 40 microns and provides adhesion and good processing. The inner layer consists of a butyl rubber sealing coat, adhering to each surface. The sealing coat has been covered with a polyethylene layer. The total thickness is 0.95mm +/- 3%.

#### **DELIVERY PROGRAM**

**ASB**-tape is available in three different standard widths: 050, 075 and 100mm. The standard length is 15m per roll. Ordering code: **ASB7{width}** 

### **OPERATING TEMPERATURE.**

**ASB**-tape is suitable for applications within the following temperature range: -20 up to +70 °C.

#### **OPERATING PRESSURE**

**ASB**-tape is suitable for processing up to an over pressure of +2000 Pa.

#### **ADHESION**

The product adheres completely within 24 hours. The adhesion to galvanized steel is 2.0 kg/cm if the surface is dry, fat-free and dust-free. The adhesion will be most effective if the tape is pressed firmly.

### FIRE RESISTANCE

After testing the tape has been classified into class B2, according to DIN 4102.

#### STORAGE

**ASB** has a lifespan of two years if the packaging is dry and sealed.

### **USERS GUIDE**

THE SURFACE HAS TO BE CLEAN, DRY AND FAT-FREE.

The application temperature must be higher than 5°C. Particularly when the tape is going to be attached at a lower temperature it should be pressed firmly. Applicate on round and square ducts. If the duct has a diameter >250mm, some clearance between the ducts can be expected due to the tolerance; we advice to use only **ASB** width 75mm or wider. Use an overlap of 5cm or larger.

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# **COMBIDEC®**

**COMBIDEC**® ducts are solid, very flexible, ectremly strong laminate ducts for different ranges of application. The duct consists of several layers of aluminum, polyester and copolymer. The ducts can be attached easily to round and oval connection parts. The fire resistance of the **COMBIDEC**® ducts has been tested in several countries, according to the current international standards. For specific information about the different ducts we refer to the product information sheet.



The base of the **COMBIDEC**® series is an aluminum laminate duct with an outer jacket of copolymer.

The used laminate has been developed by **DEC BV** trading under the name: **DEC International**® and has been composed of a "sandwich construction". The different layers of copolymer and aluminum are overlapping each other completely. This provides a very strong construction. The outer jacket is wear resistant and steam-tight.

The advantages of a **COMBIDEC®** duct towards PVC covered ducting:

- Higher temperature resistance.
- Less smoke development in the case of fire.

The advantages of a **COMBIDEC®** duct towards aluminium laminated ducting:

- Higher tear resistance.
- Better mechanical protection against external influences.
- Better resistance under local pressure.
- · Higher resistance against puncture.

The Standard **COMBIDEC**® color is **Grey metallic**.

Colors on request:

- Black.
- White.

The **COMBIDEC**® 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 **COMBIDEC®** product, consult the table on the next page.

# COMBIDEC®

	COMBIDEC® 2000	COMBIDEC® 2100	COMBIDEC® 2300
Mechanical properties			
Temperature range (°C)	-30 - +140	-30 - +140	-30 - +140
Maximum operating pressure (Pa)	+3000	+3000	+3000
Maximum velocity of air (m/s)	30	30	30
Diameter range (mm)	102 - 508	102 - 508	52 - 710
Fire classes according to			
The Netherlands (NEN 6065/6066)	1 and 3	1 and 3	1 and 3
Germany (DIN 4102)	B2	B2	B2
France (CSTB)	х	х	M2
Switzerland (BKZ)	х	5.2	black 5.2
United Kingdom (BS 476)	6,7 and 20	7 and 20	6, 7 and 20
Austria (B3800)	х	B2	B2
Sweden(Swedcert)	х	х	A15
Italy (CSI)	Class 2	х	х
Technical data			
Article code	DC20[G/W/B] {Ø}	DC21[G/W/B] {Ø}	DC23[G/W/B] {Ø}
Material structure	6 layers	6 layers	5 layers
Wire spacing			
Ø 52 mm	-	-	12
Ø 65 and 76 mm	-	-	18
	36	25	25
Minimum bending radius	0.54 x Ø	0.58 x Ø	0.58 x Ø
Standard length (meters)	10	10	10

### Colors:

G = Standard Grey

W = WhiteB = Black

# **COMBIDEC®**

### Applications in practice

## COMBIDEC® 2000, 2100 en 2300

- Steam return circuits
- Applications, where a good mechanical sterkte is required
- Mechanical Air conditioning systems
- Also see options in respect to house construction.

### Restrictions in the range of application

The **COMBIDEC**<sup>®</sup> ducts are not suitable for discharging combustion products from open fireplaces and oil-fired boilers. Neither are the **COMBIDEC**<sup>®</sup> ducts suitable for transporting air with a high concentration of acid and base.

### 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.

The **Combidec**® **2000** is also available as rectangular duct in several sizes and colors. The standard color is white and the standard length is 6mtr.

Product code:	Sizes:	Length:
DC20W110x54/6	110mm x 54mm	6Mtr
DC20W140x54/6	140mm x 54mm	6Mtr
DC20W180x54/6	180mm x 54mm	6Mtr
DC20W195x54/6	195mm x 54mm	6Mtr
DC20W222x58/6	222mm x 58mm	6Mtr
DC20W115x55/6	115mm x 55mm	6Mtr
DC20W150x70/6	150mm x 70mm	6Mtr

# **COMPACDEC®**



**COMPACDEC**® is a superb flexible duct constructed of two layers of corrugated aluminium. By the inter lockseam a high airtighness and flexibility is reached.

## **COMPACDEC®**

- suitable for mechanical air supply systems and air conditioning systems.
- fire resistant according to the German norm **DIN4102** and to the European norm **EN13501-1** and Classified as **A1**.
- mechanical manufactured according NEN-EN13180.

### Applications in practice

### **COMPACDEC®**

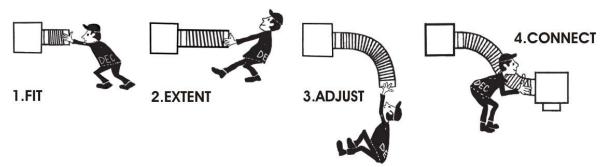
- Mechanical air supply systems
- Air conditioning systems
- Systems, where vapors should be exhausted
- Above mentioned systems, where a special mechanical strength is required

#### Chemical resistance

The inner- and outer layers of the COMPACDEC® consist of aluminium and has a:

- Good resistance to many solvents
- Poor resistance to acid and base
   The resistance decreases, if the relative air humidity of the air with chemicals, which has to be transported, increases.

### **HOW TO INSTALL**



### Restrictions in the range of application

The **COMPACDEC**® is not suitable for transporting air with a high concentration of acid and base.

### PLEASE NOTICE:

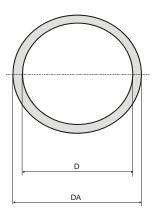
The consultant is responsible for the actual installation and mounting of the product. The mentioned values with respect to temperatures are not appropriate to be used to determine the physical properties. These properties are also dependent on humidity and the temperature of the air inside and outside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

# COMPACDEC®

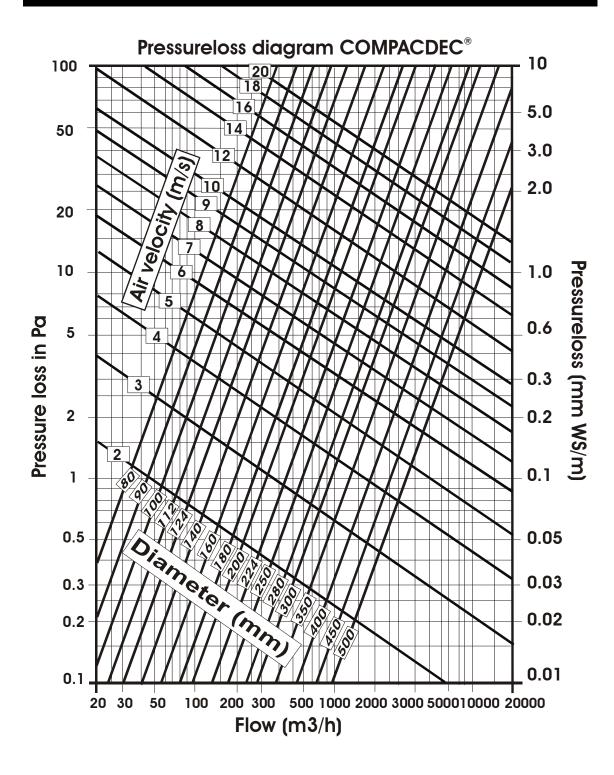
## **Technical properties**

	COMPACDEC®
Mechanical properties	
Temperature range (°C)	-30 - +250
Peak. value (°C)	+400
Max. operating pressure (Pa)	+3000
Max. air velocity (m/s)	30
Diameter range (mm)	050 - 500
Fire classes according to	
Europe (EN13501-1)	A1
The Netherlands (NEN 6065/6066)	1
Germany (DIN 4102)	A1
France (CSTB)	MO
Switzerland (BKZ)	6Q3
United Kingdom (BS 476)	4, 6, 7 and 20
Austria (B3800)	A1
Sweden (Swedcert)	A15
Italy (CSI)	0
Technical Data	
Article code	DCD2{Ø}
Material Construction	2 Layers aluminium
Minimum bending radius	1 x Ø
Standard length (meters)	5
Standard Color	Aluminium

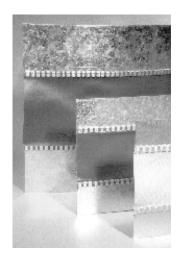
D (mm)	Tolerance	DA (mm)
050	+1,0 / -0	057
060	+1,0 / -0	067
075	+1,0 / -0	082
080	+1,0 / -0	087
100	+1,0 / -0	107
125	+1,0 / -0	132
140	+1,0 / -0	147
150	+1,5 / -0	157
160	+1,5 / -0	167
180	+1,5 / -0	187
200	+1,5 / -0	207
224	+1,5 / -0	231
250	+2,0 / -0	257
280	+2,0 / -0	287
300	+2,0 / -0	307
315	+2,0 / -0	322
355	+2,0 / -0	402
400	+2,0 / -0	407
450	+2,5 / -0	457
500	+2,5 / -0	507



# **COMPACDEC®**



**DEC International**®'s flexible connection **(DEC CONNECTOR)** has been manufactured out of an already existing steel-to-fabric-to-steel connection, which enables a fast and simple connection between two (rigid) ducts. Once the galvanized steel overlap has been bent into the correct shape it can be fastened with **DEC International**® *selfdrilling screws* or pop rivets. Another possibility is spotwelding. The result is a solid flexible connection. which can be mounted simply and quickly. It meets the constructional demands.



The standard fabric in the **DEC CONNECTOR** is **VINYL**, **NEOPRENE**, **POLYURETHANE** and **SILICONE** are available on request. Each type of fabric has its own quality and specific application. (See product specific information).

All **DEC CONNECTOR** 's meet the British specifications for sheet metal ductwork DW/142 and DW/144

A great advantage of the **DEC CONNECTOR** is e.g. the large range of widths of material. Standard sizes are:

Steel	Fabric	Steel
35 mm	60 mm	35 mm
45 mm	60 mm	45 mm
45 mm	75 mm	45 mm
70 mm	100 mm	70 mm

Beside the standard widths it is possible to produce, on request, the **DEC CONNECTOR** in various other widths.

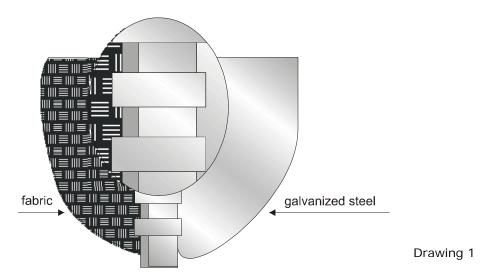
For further information contact our sales department, because **there are restrictions**.

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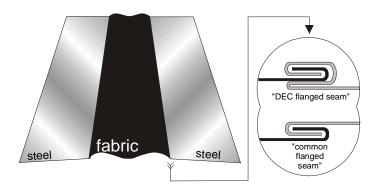
#### **FLANGED SEAM**

In the **DEC CONNECTOR**, particularly developed, various unique properties have been used, a.o. the modern flanged seam technology. Mostly a simple flanged seam has been used in similar products. The **DEC CONNECTOR** has been produced with a flanged seam with 4 layers (see drawing 2).

The double flanged seam gives an exceptional power to the connection between steel and fabric. The double flanged seam is used in each type of **DEC CONNECTOR**.



Another advantage is the extraordinary protection the double flanged seam is giving to the fabric. It can be shaped easily by bending and the open flanged seam prevents the damaging of the fabric.



Drawing 2

### STANDARD PRODUCTION LENGTH.

The standard production length of the **DEC CONNECTOR** is 25 m (82 feet). Other lengths on request. If you are interested please contact our sales team.

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#### **GALVANIZED STEEL.**

The galvanized steel in the **DEC CONNECTOR** meets the demands of the following specifications:

Thickness of plate : 400 microns
 Thickness tolerance : -50/+50 microns
 Sinking weight : 275 gr/m²
 Quality : STO2Z275

Chromatic Reagenz : NA Quality IIA (fewer lead, so fewer pollution)

### CHEMICAL RESISTANCE

This table indicates the chemical resistance of galvanized steel in relation to different chemicals. It is just a restricted summary. For more information about the resistance to, not mentioned chemicals, please contact our sales team.

Chemicals	x	3	2	1
Acetone				>
Acetylene				>
Ammonia	<b>&gt;</b>			
Benzene				>
Bromide	>			
Butane				>
Chlorine	<b>&gt;</b>			
Ethane				>
Phenol	~			
Phosphoric acid	~			
Helium				~
Carbon dioxide			~	
Carbon dioxide (liquid)	>			
Methane	~			
Methanol				~
Toluene				~
Neon				<b>V</b>
Ozone	>			
Nitric acid (diluted)	~			
Nitrogen				<b>V</b>
Water			<b>'</b>	
Water vapour				~
Hydrogen				~
Hydrochloric 37% cold	<b>&gt;</b>			
Hydrochloric 37% warm	<b>&gt;</b>			
Sulphur				<b>&gt;</b>
Sulphuric acid, diluted				<b>&gt;</b>
Sulphurous acid				~

Explanation: 1 = excellent

2 = good

3 = moderated

x = poor/not recommended

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To select the appropriate **DEC CONNECTOR** products consult the table below.

	Vinyl	Polyurethane	Silicone	Neoprene
Mechanical data				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Specific gravity (gr/m²)	600	450	550	570
Temperature range (°C)	-30 - +70	-50 - +200	-40 - +280	-20 - +100
Max. temperature (°C)	-	400 – <b>2h</b> *	-	_
Fire class				
France (CSTB)	Х	*MO	M1-M0	M1
Great Britain (BS 476)	Х	Part 7 Class1	Part 7 Class1	Part 7 Class1
Fire tests	flame retardant	irrelevant	irrelevant	irrelevant
Technical data				
Fabric		see product spec	cific properties	
Colour	dark grey	silver	silver	black
Chemical Resistance				
Acetone	••	•	••	••
Acetylene	••	Х	••	••
Ammonia	•	Х	•	х
Benzene	••	••	•	•
Butane	•	•	•	•
Chlorine	•••	•	•	•••
Chlorine gas	•	•	Х	•
Ethane	••	•••	•	••
Phenol		•	•	
Phosphoric acid	••	•	•	••
Helium	•	•	•	•
Carbon dioxide	•	Х	••	••
Carbon dioxide (liquid)	•	•	•	
Methane	••	•	•	••
Methanol	•	•	•	•
Toluene		•	•	Х
Neon	•	•	•	•
Ozone	•••	•	•	•••
Nitric acid (diluted)	•	•••	• •	•
Nitrogen	•	•	•	•
Water	•	•	•	•
Water vapour	•	•	•	•
Hydrogen	••	Х		••
Hydrochloric 37% (cold)	••	•	••	••
Hydrochloric 37% (warm)		•	•	•
Sulphur	•	Х	•	•
Sulphuric acid (diluted)	••	•••	•	••
Sulphurous acid	••	•	•	••

poor/not recommended

poor/not recommended excellent

good moderate x not been tested

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### Applications in practice.

### **DEC CONNECTOR type VINYL**

➤ The fabric with a copolymer coating, used in this type of **DEC CONNECTOR**, is suitable for applications with *high requirements to the moisture resistance and less or no mechanical requirements*. This connector is appropriate for round, oval and rectangular air ducts. It can be shaped easily with a minimal percentage of waste.

### **DEC CONNECTOR type SILICONE**

> The fabric with a silicone coating, used in this type of **DEC CONNECTOR**, is suitable for applications with high mechanical demands to the material. This connector is appropriate for round, oval and rectangular air ducts. It can be shaped easily with a minimal percentage of waste.

#### **DEC CONNECTOR type POLYURETHANE**

➤ The fabric with a polyurethane coating, used in this type of **DEC CONNECTOR**, is suitable for applications *were a high chemical resistance is required*. This connector is appropriate for round, oval and rectangular air ducts. It can be shaped easily with a minimal percentage of waste.

### **DEC CONNECTOR type NEOPRENE**

> The fabric with a neoprene coating, used in this type of **DEC CONNECTOR**, is suitable for applications were a high chemical resistance is required. This connector is appropriate for round, oval and rectangular air ducts. It can be shaped easily with a minimal percentage of waste.

#### PRODUCT SPECIFIC PROPERTIES.

### DEC CONNECTOR Type VINYL

Fabric: copolymer coated polyester (PES)

### **DEC CONNECTOR Type SILICONE**

Fabric: silicone coated glass fibre

### DEC CONNECTOR Type POLYURETHANE

Fabric: polyurethane coating glass fibre

### **DEC CONNECTOR Type NEOPRENE**

Fabric: neoprene coated glass fibre

# FLEXIBLE CHIMNEY TUBE LINING

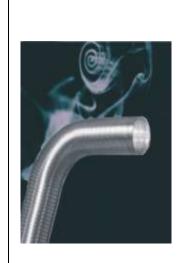
Product information for customers

If you decide using a flexible system, please be sure you select the correct type of chimney lining.

The **DECFLEX** range can be divided into three main groups:

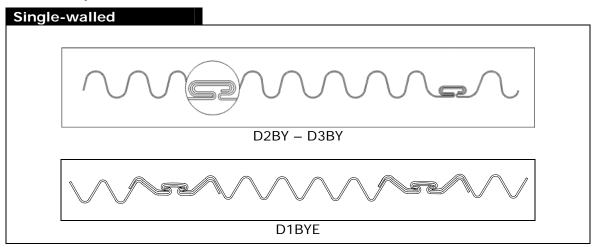
- Single-walled products.
- Double-walled products. (inside smooth)
- Accessories.

Attention: Do NOT use these products for halogen-contaminated exhaust gases!!

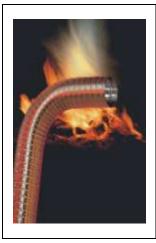


SINGLE-WALLED	
Product name:	DECFLEX SWE/316 L
Product code:	D1BYE {Ø} L
Material:	Austenitic stainless steel (AISI 316L / DIN 1.4435)
Application:	In situations where no special provisions for condensation are required
SINGLE-WALLED	WITH TRIPLE LOCKSEAM
Product name:	DECFLEX SW/316 Ti
Product code:	D2BY {Ø} L
Material:	Austenitic stainless steel (AISI 316Ti / DIN 1.4571)
Application:	In situations where no special provisions for condensation are required
SINGLE-WALLED	WITH TRIPLE LOCKSEAM
Product name:	DECFLEX SW/904L
Product code:	D3BY{Ø}L
Material:	Austenitic stainless steel (AISI 904L/DIN 1.4539)
Application:	Heating source where condensation occurs

## Wall composition



# FLEXIBLE CHIMNEY TUBE LINING



DOUBLE-WALLED WITH TRIPLE LOCKSEAM				
Product name:	<b>DECFLEX TW/316Ti</b> /DIN 1.4571			
Product code:	D22BY {Ø} L			
Material:	Austenitic stainless steel AFNOR Z6 CNDT 17 - 22 (AISI 316Ti/DIN 1.4571)			
Application: In situations where no special provisions for condensation are required				
DOUBLE-WALLED WITH TRIPLE LOCKSEAM				
Product name:	<b>DECFLEX TW/904L</b> /DIN 1.4539			
Product code:	D33BY{Ø}L			
Material:	Austenitic stainless steel AFNOR Z2 NCDU 25 - 20 (AISI 904L/DIN 1.4539)			
Application:	Heating source where condensation occurs using wood, coal and oil			

## Wall composition

Double-walled



# FLEXIBLE CHIMNEY TUBE LINING - CONDUITS FLEXIBLES POUR TUBAGES

Material quality		
Product code	Material	Alloy
D1BYE	AISI 316L/DIN 1.4435	1.4435
D2BY	AISI 316Ti/DIN 1.4571	1.4571
D3BY	AISI 904 L/DIN 1.4539	1.4539
D22BY	AISI 316Ti/DIN 1.4571	1.4571
D33BY	AISI 904 L/DIN 1.4539	1.4539

• In all the above Cold Rolled Bright Annealed (tested according to EN 10204 3.1B)

Wall thickness		
Product code	Thickness(mm)	Wall properties
D1BYE	0.120	corrugated
D2BY	0.120	corrugated
D3BY	0.120	corrugated
D22BY	0.240	outside cover corrugated, inside smooth
D33BY	0.240	outside cover corrugated, inside smooth

### **Description of the production process**

The production process is certified according to EN-ISO9001: 2000.

All flexible tubes have been marked at every metre with:

Product name, manufacture name, nominal measurements, batch numbers and hallmark(s). A line marks every metre.

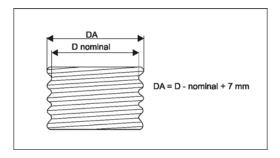
## **Packaging**

The flexible tubing comes standard in easy rolls covered with polyethylene elastic foil to minimise packaging waste. As extra protection a box or protection foil can be used.

# FLEXIBLE CHIMNEY TUBE LINING – CONDUITS FLEXIBLES POUR TUBAGES

Single-	-walled					
Load	Diameter		D2B\	and D	BBY	
Nett [kW]	Ø nom [mm]	wood min. max. L in metres	oil min. max. L in metres	Zeta	Bending radius min (mm)	Kg/m
5	080	5 – 5	3 – 5	0.72	240	0.50
10	080	Х	Х	0.72	240	0.50
5	090	3 – 6	2 - 5	0.61	270	0.56
10	090	X	5	0.61	270	0.56
5	100	3 - 5	2 - 4	0.53	300	0.62
10	100	6 - 9	3 - 7	0.53	300	0.62
7.5	110	3 - 7	2 - 6	0.47	330	0.68
15	110	11 - 12	4 - 10	0.47	330	0.68
7.5	120	2 - 7	2 - 6	0.41	360	0.74
15	120	6 - 11	3 - 9	0.41	360	0.74
7.5	125	2 - 6	2 - 5	0.39	375	0.77
15	125	5 - 11	3 - 9	0.39	375	0.77
10	130	3 - 8	2 - 7	0.37	390	0.81
20	130	7 - 13	4 - 11	0.37	390	0.81
15	140	3 - 11	2 - 9	0.34	420	0.87
30	140	16 - 18	5 - 15	0.34	420	0.87
15	150	2 – 10	2 – 9	0.31	450	0.93
30	150	7 – 17	3 – 14	0.31	450	0.93
15	160	2 – 10	2 – 10	0.28	480	0.99
30	160	5 – 17	3 – 14	0.28	480	0.99
20	180	2 - 12	2 - 10	0.24	540	1.11
40	180	6 - 20	3 - 16	0.24	540	1.11
25	200	2 - 13	2 - 11	0.21	600	1.24
50	200	5 - 22	3 - 18	0.21	600	1.24
35	225	2 - 16	2 - 14	0.17	675	1.39
70	225	6 - 27	3 - 23	0.17	675	1.39
40	250	2 - 17	2 - 14	0.16	750	1.55
80	250	5 - 29	3 - 24	0.16	750	1.55
55	300	2 - 20	2 - 17	0.12	900	1.86
110	300	4 - 34	3 - 28	0.12	900	1.86
80	350	2 - 25	2 - 21	0.10	1050	2.17
160	350	5 - 42	3 - 35	0.10	1050	2.17

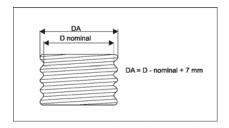
<sup>&</sup>quot;x" in the tables stands for no dry chimney with sufficient capacity



# FLEXIBLE CHIMNEY TUBE LINING – CONDUITS FLEXIBLES POUR TUBAGES

Double-walled						
Load	Diameter		D22B\	and D3	B3BY	
Nett [kW]	Ø nom	wood	oil	Zeta	Bending	Kg/m
	[mm]	min. max.	min. max.		radius	
			L in metres		min (mm)	
5	100	2 - 6	2 - 5	0.38	300	0.93
10	100	5 - 10	3 - 8	0.38	300	0.93
7.5	110	3 - 8	2 - 7	0.34	330	1.02
15	110	7 - 13	4 - 11	0.34	330	1.02
7.5	120	2 - 8	2 - 6	0.30	360	1.11
15	120	5 - 13	3 - 11	0.30	360	1.11
7.5	125	2 - 7	2 - 6	0.29	375	1.16
15	125	4 - 12	3 - 11	0.29	375	1.16
10	130	2 - 9	2 - 8	0.27	390	1.21
20	130	5 - 15	3 - 13	0.27	390	1.21
15	140	3 - 12	2 - 10	0.25	420	1.30
30	140	9 - 20	4 - 17	0.25	420	1.30
15	150	2 – 12	2 - 10	0.23	450	1.39
30	150	6 – 19	3 - 16	0.23	450	1.39
15	160	2 – 13	2 - 11	0.21	480	1.48
30	160	4 – 19	3 - 16	0.21	480	1.48
20	180	2 - 13	2 - 11	0.18	540	1.67
40	180	5 - 22	3 - 19	0.18	540	1.67
25	200	2 - 15	2 - 13	0.16	600	1.85
50	200	5 - 25	3 - 21	0.16	600	1.85
35	225	2 - 18	2 - 15	0.14	675	2.00
70	225	5 - 30	3 - 26	0.14	675	2.00
40	250	2 - 19	2 - 17	0.12	750	2.32
80	250	5 - 32	3 - 28	0.12	750	2.32
55	300	2 - 23	2 - 20	0.09	900	2.78
110	300	4 - 38	3 - 33	0.09	900	2.78
80	350	2 - 29	2 - 24	0.08	1050	3.29
160	350	4 - 47	3 - 40	0.08	1050	3.29

<sup>&</sup>quot;x" in the tables stands for no dry chimney with sufficient capacity



# FLEXIBLE CHIMNEY TUBE LINING - CONDUITS FLEXIBLES POUR TUBAGES

## **ACCESSORIES:**

## **Bottom adapters:**



ADAP1PW {Ø}	Connecting piece/Flex	
Material thickness:	Stainless steel	
0.5 mm	316L/DIN 1.4404	
Available diameters (mm): 060, 080, 090, 100, 110, 113, 125,		
130, 150, 180, 200, 225, 250, 300, 350		

	HT kit	Sealingkit for ADAP PW
	Maximum temperature	High temperature Silicone
Silicone Kit	combustion gases 200°C	sealant
	Tube of 310ml	

ADAP1RG {Ø}	Connecting piece/Flex
Material thickness:	Stainless steel
0.5 mm	316L/DIN 1.4404
Available diameters (mm): 080, 090, 100, 110, 120, 130, 140,	
150	

ADAP1R {Ø}	Connecting piece/Flex
Material thickness:	Stainless steel
0.5 mm	316L/DIN 1.4404
Available diameters (mm): 080, 090	0, 100, 110, 125, 130,140

ADAS1 {Ø}	Sealing ring for ADAP1R(G)
Maximum temperature combustion gases 250°C	Silicone rubber
Available diameters (mm): 080, 90, 180, 200	100, 110, 125, 130, 150,

# FLEXIBLE CHIMNEY TUBE LINING – CONDUITS FLEXIBLES POUR TUBAGES

## Top adapters:



	ADAP 2PW {Ø}	Flex/Connecting piece
Material thickness:		Stainless steel
	0.5 mm	316L/DIN 1.4404
	Available diameters (mm): 060, 080	0, 090, 100, 110, 113, 125,
	130 150 180 200 225 250 300	350

	HT kit	Sealingkit for ADAPPW
	Maximum temperature	High temperature Silicone
Silicone Kit	combustion gases 200°C	sealant kit
	Tube of 310ml	

	ADAS3 {Ø}	Sealing ring for top space ADAP2PW
	Maximum temperature combustion gases 200°C	Silicone rubber
Available diameters (mm): 060, 080, 090, 100, 110, 1		

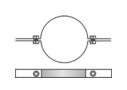
ADAP 2 {Ø}	Flex/Connecting piece
Material thickness:	Stainless steel
0.5 mm	316Ti/DIN 1.4571
Available diameters (mm): 080, 090 200, 225, 250, 300	0, 100, 125, 130, 150, 180,

	ADAS2 {Ø}	Sealing ring for ADAP2
	Maximum temperature combustion gases 250°C	Silicone rubber
	Available diameters (mm): 080, 90	0, 100, 110, 125, 130, 150,
	180, 200	

ADAP3 {Ø}	Cover plate for ADAP2
Material thickness:	Stainless steel
0.5 mm	316Ti/DIN 1.4571
Available diameters (mm): 080, 090, 100, 125, 130, 150, 180,	200, 225, 250, 300

ADAP4 {Ø}	Cover plate	
Material thickness:	Stainless steel	
0.5 mm	316L/DIN 1.4404	
Available diameters (mm):		
080, 090, 100, 110 125, 130, 150,	180	

# FLEXIBLE CHIMNEY TUBE LINING – CONDUITS FLEXIBLES POUR TUBAGES



FLS 316Ti {Ø}	Mounting bracket
Material thickness:	Stainless steel
2.0 mm	316L/DIN 1.4404
Available diameters (mm):	

Available diameters (mm):

100, 125, 130, 150, 180, 200, 250, 300



FLCR {Ø}	Clamping bracket		
Material thickness:	Stainless steel		
0.6 mm - 1.0 mm	316L/DIN 1.4404		
Available for diameters (mm):			
080, 100, 110, 113, 125, 130, 150, 180, 200, 250, 300, 350			

FLRC {Ø}	Rain shield			
Material thickness:	Stainless steel			
Up to 200: 0.6 mm; > 1.0 mm	316L/DIN 1.4404			
Available for diameters (mm):				
080, 100, 110, 130, 150, 180, 200, 250, 300, 350				

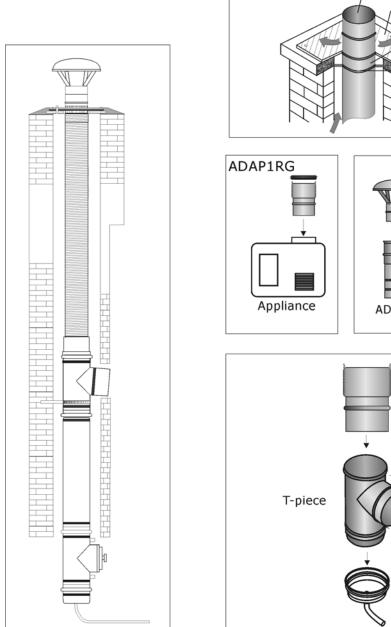
0	ADAC {Ø}	Sweep cone	
	Material	Wood	
	Available diameters (mm):		
	080, 090, 100, 130, 150, 180, 200, 250, 300		

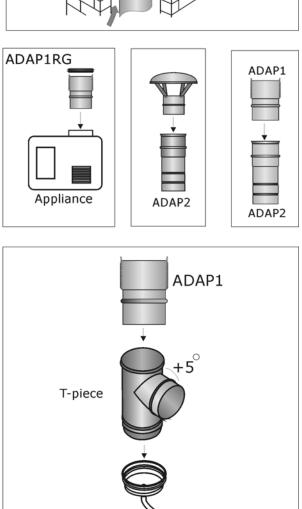


FLTP {Ø}	T-piece 90°		
Material thickness:	Stainless steel		
Up to 200: 0.6 mm; > 1.0 mm	316L/DIN 1.4404		
Available diameters (mm):			
080, 100, 110, 130, 150, 180, 200,	250, 300, 350		

# FLEXIBLE CHIMNEY TUBE LINING - CONDUITS FLEXIBLES POUR TUBAGES

Sample situations (illustrations serve as examples only). The manufacturer accepts no liability for the ultimate construction.





ADAP2

ADAP3

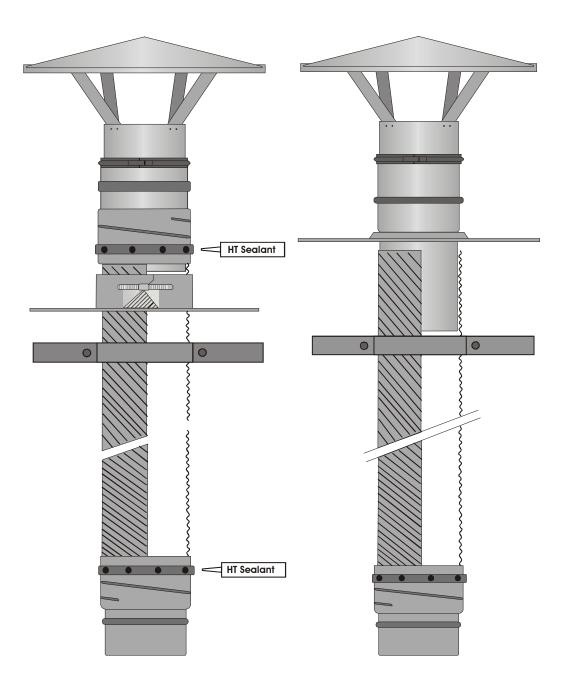
ADAS2

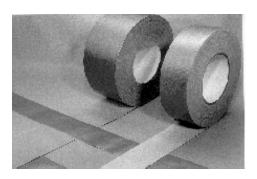
Accessories are attached using clamping brackets.

When using a condensation drain: connect this to the sewer system, but do insert a goose-neck.

# FLEXIBLE CHIMNEY TUBE LINING - CONDUITS FLEXIBLES POUR TUBAGES

Sample situations (illustrations serve as examples only). The manufacturer accepts no liability for the ultimate construction.





### CONSTRUCTION **DUCT-TAPE** is a linnen-tape, a composition of polyethylene and plastic, provided with a natural rubber sealing coat layer. The maximal elongation is 8%. The total thickness is 310 microns.



## **DELIVERY PROGRAM DUCT-TAPE** is available in two different standard sizes: 50 and 75mm. The standard length, per roll, is 50m. Ordering code: **DUCT[width]**.

#### **OPERATING TEMPERATURE**

**DUCT-TAPE** is suitable for applications within the following range of temperature:  $-20 \text{ up to } +75^{\circ}\text{C}.$ 

The processing has to take place between +5 and +30°C

### **OPERATING PRESSURE**

**DUCT-TAPE** is suitable for processing until an over pressure of: +1500Pa.

### **ADHESION**

The adhesion is 0.55kg/cm if the surface is fat-free and dust-free. The ultimate tensile failure is 5.9kg/cm.

### **STORAGE**

DUCT TAPE has a lifespan of one year at room temperature, if the packaging is sealed.

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The **Flexible Sound attenuator** series consist of a perforated aluminum inner duct, thermically insulated with a glass wool layer and provided with either an outer jacket strengthened with glass fibre (**SONODEC**<sup>®</sup> **TRD**) or an aluminium laminate outer duct (**SONODEC**<sup>®</sup> **GLX**). Both lined with a barrier to prevent glass wool particles migration.

The **SONODEC**® **TRD** has an increased insertion loss, the **SONODEC**® **GLX**, however, has an increased sound attenuation.





SONODEC® TRD

SONODEC® GLX

# Application in practice SONODEC® TRD & SONODEC® GLX

- Air supply systems
- Air conditioning systems
- Insertion loss damper
- Sound attenuator
- Decreasing sound of machines

### **Chemical resistance**

The inner duct and the outer jacket of the **SONODEC**® **TRD** and **GLX** consist of aluminium laminate and has a:

- Good resistance to many organic solvents
- Moderate resistance to acid and base
   The resistance decreases, if the relative air humidity of the air with chemicals, which has to be transported, increases

### Restrictions in the range of application

The **SONODEC**® **GLX** and **SONODEC**® **TRD** are not suitable for using in rooms with a high concentration of acid and base and 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® TRD	SONODEC® GLX	
Mechanical properties			
Temperature range (°C)			
inner duct outer duct	-30 - +140 -30 - +140	-30 - +250 -30 - +140	
Maximum operating pressure (Pa)	+2000	+3000	
Maximum air velocity (m/s)	30	30	
Diameter range (mm)	76 - 635	76 - 635	
Fire classes according to			
The Netherlands (NEN 6065/6066)	1	1	
Germany (DIN 4102)	B2	X/B1	
France (CSTB)	M1	M1/M0	
Switzerland (BKZ)	х	x/5.2	
United Kingdom (BS 476)	6, 7 und 20	6, 7 und 20	
Austria (B3800)	B1	х	
Italy (CSI)	1-0	x-0	
Technical data			
Article code	DST{Ø}/length	GX{Ø}/length	
Material structure	see product specific properties		
Construction	see product spe	ecific properties	
Wire spacing inner duct			
until Ø 102 mm	25 mm	25 mm	
Ø 102 mm and larger	36 mm	18 mm	
Wire spacing outer jacket	irrelevant	25	
Minimum bending radius	0.54 x Ø + <u>↑</u>	0.58 x Ø + <u>↑</u>	
Standard length (meters)	0.5, 1.0, 1.5 and 2 <sup>1)</sup> 0.5, 1.0, 1.5 a		
Standard color	aluminium	aluminium	

X = not been tested

thickness of the glass wool elengths up to 10 meters on request

### **Product specific properties**

## SONODEC® TRD

The **SONODEC**® **TRD** is also available, on request, with a 50 mm glass wool layer, the article number is:  $DST50\{\emptyset\}/length$ 

Material structure:

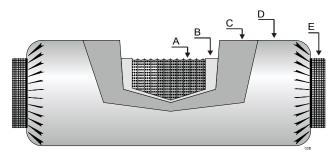
- perforated aluminium laminate / barrier / glass wool / aluminium laminate

Construction:

- inner duct : aluminium, polyester laminate.

barrier
 glass wool blanket
 outer jacket
 closed polyester film
 25 (or 50) mm, 16 kg/m³
 aluminium, polyester laminate.

■ R-value glass wool : 0.69 (25 mm) or 1.4 (50 mm) m<sup>2</sup>K/W (ASTM C177-76)



- A. inner duct
- B. barrier
- C. glass wool
- D. outer jacket
- E. gasket

### Sound attenuation

Sound attenuation							
SONODE	ONODEC® TRD (Test report nr. AB323-1 Peutz bv - The Netherlands)						
D <sub>n</sub>	L		Atten	uation, dB -	Mid-frequen	cy, Hz	
(mm)	(mtr)	125	250	500	1000	2000	4000
082	1	16	26	33	38	28	17
082	2	21	37	48	53	46	29
102	1	9	19	32	37	31	21
102	2	19	33	52	53	49	36
127	1	12	20	21	25	29	17
127	2	17	31	44	45	46	26
160	1	17	22	22	27	19	14
160	2	31	39	34	38	31	20
203	1	7	15	17	20	16	13
203	2	20	34	32	35	30	22
254	1	16	16	16	16	13	10
254	2	26	31	28	33	25	18
315	1	11	12	12	14	11	7
315	2	28	25	22	27	22	15
457	1	12	10	8	8	6	8
437	2	20	17	15	16	13	12
E09	1	8	8	8	9	6	7
508	2	20	17	16	17	11	11

### **Product specific properties**

## SONODEC® GLX

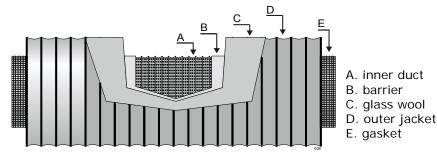
The **SONODEC**<sup>®</sup> **GLX** is also available, on request, with a 50 mm glass wool layer, the article number is:  $GX50\{\emptyset\}$ /length

- Material structure:
  - perforated aluminium laminate / barrier / glass wool / aluminium laminate
- Construction:

- inner duct : aluminium, polyester laminate.

barrier
 glass wool blanket
 outer duct
 closed polyester film
 25 (or 50) mm, 16 kg/m³
 aluminium, polyester laminate.

■ R-value glass wool : 0.69 (25 mm) or 1.4 (50 mm) m<sup>2</sup>K/W (ASTM C177-76)



On request the **SONODEC**  $^{\otimes}$  **GLX** can also be ordered with an outer jacket of **COMBIDEC**  $^{\otimes}$ , the articlecode is GXC21B{Ø}/Length

## Sound attenuation

Sound attenuation							
SONODE	SONODEC® GLX (Test report nr. AB323-6 Peutz bv - The Netherlands)						
D <sub>n</sub>	L		Atten	uation, dB -	Mid-frequence	cy, Hz	
(mm)	(mtr)	125	250	500	1000	2000	4000
002	1	11	10	16	24	38	27
082	2	11	13	25	48	57	40
102	1	3	8	19	35	30	19
102	2	5	11	24	46	49	32
127	1	2	5	9	17	24	19
127	2	4	8	19	36	40	25
160	1	4	6	12	21	10	8
160	2	6	9	18	38	47	26
203	1	2	6	12	21	10	8
203	2	5	10	22	42	22	17
254	1	3	6	11	12	8	11
254	2	5	10	19	29	15	13
315	1	3	6	11	15	9	9
313	2	5	8	15	26	14	16
457	1	1	3	6	9	6	8
437	2	5	6	11	17	11	11
508	1	1	4	9	8	6	7
506	2	4	7	15	14	10	9

# FS2000/DEC050

The combination of **FS2000/DEC050** is easily applied and suitable for use on High/Medium/Low Pressure Interior galvanised systems of spiral wound ducting, rectangular ducting and plenums. It is also effective and has a good adhesion on plastic, wood, glass, plaster, cement and on most porous materials. Torn and damaged lagging can also be repaired to give a permanent cover.

FS2000/DEC050 provides a 100% air tight seal.



#### CONSTRUCTION

**FS2000/DEC050** are two components, making a sealing together. **DEC050** is a minimally impregnated tape and **FS2000** is a liquid binder.

If the binder is attached to the tape the construction will be smooth.

#### **DELIVERY PROGRAM**

**FS2000/DEC050** is available in two different standard packagings. Standard length of a roll of tape is 90 m with a width of 75 mm. The standard packaging contains 5 rolls of tape. The binder is available in a 5 litre can. A standard packaging contains 3 cans.

Ordering code binder: FS2000
Ordering code tape: DEC 050

### **CONSUMPTIVE USE**

Approximately 2.5 litres of binder per roll tape.

### **OPERATION TEMPERATURE**

**FS2000/DEC050** is suitable for application within the following temperature range: -30 +100°C.

The processing has to take place between +5 and +30°C

#### **OPERATION PRESSURE**

**FS2000/DEC050** is suitable up to an over pressure of +5000 Pa. A pressure resistance of +30.000 Pa can be attained if more layers are used.

#### DRYING TIME

Within a period of 4 up to 72 hrs the **FS2000/DEC050** will be completely hard. The accurate time depends on the prevailing temperature and the air humidithy.

### **ADHESIVE**

The combination of **FS2000/DEC050** adheres to: steel, plastics, woods, textiles, ceramic products, glass, cement etc.

The adhesion result hardly depends on the condition of the surface (concerning fat and dirt).

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# FS2000/DEC050

### FIRE RESISTANCE

After testing FS2000/DEC050 has been classified into class B1, according to DIN4102 (Germany)

#### STORAGE

FS2000/DEC050 has a lifespan of five 5 years if the packaging is sealed and the storage room is frost-resisting.

#### TOXICITY

FS2000/DEC050 is non toxic in both the 'wet' and 'dry' condition.

# **SYNTHETIC DUCTS**

**SYNTHETIC** ducts are completely flexible, Iducts for several applications. The ducts are suitable for flexible mounting and can be mounted to round and oval connection pieces. The **GREYDEC**® ducts are also capable of absorbing prolonged vibrations.

The **SYNTHETIC DUCT-** series consists of:



The **PVC**: Very flexible duct consisting of PolyVinylChlorid.



The **GREYDEC**<sup>®</sup> **100**: consisting of a polyamide fabric, coated with a copolymer. The spiral wire has been inserted into the fabric.

The **PVC & GREYDEC**® fulfill 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 **Synthetic** product, consult the table on the next page.

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# SYNTHETIC DUCTS

	PVC	GREYDEC® 100	
Mechanical properties			
Temperature range (°C)	-20 - +70	-5 - +70	
Maximum operating pressure (Pa)	+3000	+3000	
Maximum air velocity (m/s)	30	30	
Diameter range (mm)	82 - 203	76 - 710	
Fire classes according to			
The Netherlands (NEN 6065/6066)	х	х	
Germany (DIN 4102)	Х	х	
France (CSTB)	M2	M2	
Switzerland (BKZ)	Х	Х	
United Kingdom (BS 476)	Х	Х	
Austria (B3800)	Х	Х	
Sweden (Swedcert)	Х	Х	
Italy (CSI)	Х	Х	
Technical data			
Article code	P{Ø} DG1{Ø}		
Material structure	1 layer		
Construction	see product spe	ecific properties	
Wire spacing			
Ø 76 - 90 mm	25 mm	34 mm	
Ø 100 mm and larger	36 mm	47 mm	
Minimum bending radius	0.55 x Ø	0.56 x Ø	
Standard length (meters)	15	10	
Standard color	White	Grey *	

<sup>\*</sup> Greydec 100 available in white on request.

## **Product specific properties**

### PVC

• Construction: PolyVinylChloride

## **GREYDEC® 100**

• Construction: Polyamide fabric, both sides coated with a copolymer

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# SYNTHETIC DUCTS

### Applications in practice.

#### **PVC**

- Mechanical air supply systems
- Air conditioning systems
- Exhausting/discharging at domestic equipment like clothes driers
- Ventilation cabinets
- Consult the selection tables

### GREYDEC® 100

- · Mechanical air supply systems
- Machine exhausting
- Air supply and ventilation systems
- Air supply cabinet in air conditioning systems; the GREYDEC® 100 is capable of absorbing prolonging vibrations because of its mechanical strength
- Consult the selection tables

#### Chemical resistance

The inside and the outside of the PVC consist of PolyVinylChloride and has a:

- Poor resistance to many solvents
- Moderate resistance to acid and base
   The resistance decreases if the relative air humidity of the air with chemicals, which has to be transported, increases.

The GREYDEC® ducts consist of copolymer and have a:

- Good resistance to acid and base
- Moderate resistance to many solvents
   The resistance decreases, if the relative air humidity of the air with chemicals, which has to be transported, increases.

The **SYNTHETIC** ducts are not suitable for transporting air with solvents and a high temperature, like combustion gas and for transporting combustion gases from wood-or coal-fired sources of heat.

### 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.

The **Greydec**® **100** is also available as rectangular duct in several sizes and colors. The standard color is white and the standard length is 6mtr.

Product code	Sizes:	Length:
DW1110x54/6	110mm x 54mm	6Mtr
DW1140x54/6	140mm x 54mm	6Mtr
DW1180x54/6	180mm x 54mm	6Mtr
DW1195x54/6	195mm x 54mm	6Mtr
DW1222x58/6	222mm x 58mm	6Mtr
DW1115x55/6	115mm x 55mm	6Mtr
DW1150x70/6	150mm x 70mm	6Mtr

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**GT TAPE** is particularly appropriate to circumstances where a long life in combination with a high air humidity resistance and chemical inertness is required. The tape is hardly subject to decay. The tape has also a thermic insulating character.

**GT TAPE** is often used as a sealing material in ventilation systems and machine building.



#### CONSTRUCTION

(Gasket) **GT TAPE** has been manufactured out of polyethylene foam. The elongation is about 40% (DIN 53577).

### **DELIVERY PROGRAM**

**GT TAPE** is standard available in 4 different thicknesses: 3, 4, 5, and 6mm. The width varies between 9 and 50mm. The standard length, per roll is 10m. The width has been linked up to the thickness as below: Ordering code: **GT{thickness}/[width]NB** 

Thickness (mm)	Width (mm)	
3	15	
4	9, 12, 15, 25 and 50	
5	9, 15 and 20	
6	12, 14 and 19	

### **OPERATING TEMPERATURE**

**GT TAPE** is suitable for applications within the following temperature range: -30 up to  $+80^{\circ}$ C.

The processing has to take place between +5 and +40°C.

### FIRE RESISTANCE

GT TAPE has been classified into class B3, according to DIN 4102 (Germany).

#### ADHESION

The adhesion is 1,0kg/2.5cm if the surface is fat-free and dust-free.

#### **STORAGE**

GT TAPE has a lifespan of one year at room temperature, if the packaging is sealed.

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# THERMICAL INSULATED PRODUCTS

**DEC International**® produces different thermically insulated products for several purposes. The thermic insulation is suitable for preventing condensation and minimizing heat loss and loss of cold.

The thermically insulated product series consist of:



The  $ISODEC^{\circledR}$  series:

The ISODEC® series consists of an aluminium laminate inner duct, thermically insulated with a glass wool layer and provided with an either glass fibre strengthened outer jacket, (ISODEC® 25 and ISODEC® 250)



The ISOSLEEVE:

The **ISOSLEEVE** consists of an aluminium laminate outer jacket, strengthened with glass fibre and provided with a glass wool insulation layer.

The **ISODEC**® 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 thermically insulated product, consult the table on the next page.

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# I SODEC®

	ISODEC® 25	ISODEC® 250	
Mechanical properties			
Temperature range (°C) Inner duct Outer duct	-30 -+140 -30 -+140	-30 -+250 <sup>1)</sup> -30 -+140	
Maximum operating pressure (Pa)	+2500	+3000	
Maximum air velocity (m/s)	25	30	
Diameter range (mm)	82 - 508	65 - 635	
Fire classes according to			
Europe (EN 13502-1)	B-s1, d0	B-s1, d0	
The Netherlands (NEN 6065/6066)	1	1	
Germany (DIN 4102)	B2	B1	
France (CSTB)	M1	MO/M1	
Switzerland (BKZ)	х	5.3	
United Kingdom (BS 476)	6, 7 and 20	6, 7 and 20	
Austria (B3800)	B1	B1	
Italy (CSI)	1-0	1-0	
Technical data			
Article code	DI{Ø}	DIX{Ø}	
Material structure	see product specific properties		
Construction	see product specific properties		
Wire spacing inner duct			
until Ø 102 mm	25 mm	25 mm	
Ø 102 mm and larger	36 mm	18 <sup>2)</sup> mm	
Minimum bending radius	0.54 x Ø + <u>↑</u>	0.58 x Ø + <u>↑</u>	
Standard length (meters)	10	10	
Standard color	aluminium	aluminium	

<sup>=</sup> thickness of glass wool

thickness of glass wool
heat resistance inner duct: up to 250 °C

<sup>&</sup>lt;sup>2)</sup> = two different wires have been used alternately

# **ISODEC®**

### Range of application in practice

- Insulation in ventilation and air supply systems
- Air conditioning systems
- Thermic insulation in order to prevent heat loss or loss of cold
- Preventing of condensation in ventilation systems

# Restrictions in the range of application

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

#### Chemical resistance

The inner- and outer jacket of the **ISODEC**® consist of aluminium laminate and has a:

- Good resistance to many organic solvents
- Moderate resistance to acid and base The resistance decreases, if the relative air humidity of the air with chemicals, which has to be transported, increases.

#### 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.

# **Product specific properties**

# ISODEC® 25

The **ISODEC**<sup>®</sup> **25** is also available, on request, with a 50 mm glass wool layer, the article number is: DI50 $\{\emptyset\}$ 

- Material structure:
  - aluminium laminate / glass wool / aluminium laminate.
- Construction:

inner duct
 glass wool blanket
 outer jacket
 ialuminum, polyester laminate.
 25 (or 50) mm, 16 kg/m³.
 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).

# ISODEC® 250

The **ISODEC**<sup>®</sup> **250** is also available, on request, with a 50 mm glass wool layer, the article number is: DIX50 $\{\emptyset\}$ 

- Material structure:
  - aluminium laminate / glass wool / aluminium laminate.
- Construction:

inner duct
 glass wool blanket
 outer jacket
 ialuminum, polyester laminate.
 25 (of 50) mm, 16 kg/m³.
 ialuminum, polyester laminate.

• R-value glass wool :0.69 (25 mm) or 1.4 (50 mm) m<sup>2</sup>K/W (ASTM C177-76).

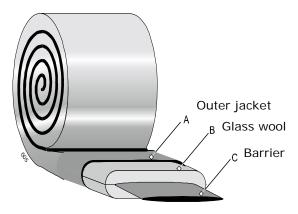
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# **ISOSLEEVE**

	ISOSLEEVE 25	ISOSLEEVE 50	
Mechanical properties			
Temperature range (°C)	-30 - +140	-30 - +140	
Maximum operating pressure (Pa)	+2000	+2000	
Maximum air velocity (m/s)	irrelevant	irrelevant	
Diameter range (mm)	52 - 635 <sup>1)</sup>	52 - 635 <sup>1)</sup>	
Fire classes according to			
Europe (EN 13501-1)	B-s1, d0	B-s1, d0	
The Netherlands (NEN 6065/6066)	3-1	3-1	
France (CSTB)	M1	M1	
Technical data			
Article code	DHB{Ø}	DHB50{Ø}	
Material structure	see product specific properties		
Construction	see product sp	ecific properties	
Standard length (meters)	10	10	
Standard color	aluminium	Aluminium	

X = Not been tested

1) = Diameter acc. to inner duct



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# **ISOSLEEVE**

# Range of application in practice

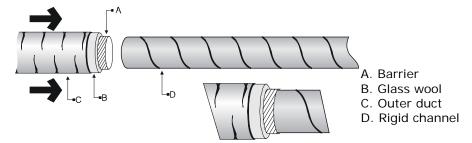
- Insulation in air supply systems
- Air conditioning systems
- Insulation of rainwater discharge
- Reducing of heat loss
- Preventing/discharging of condensation

# Restrictions in the range of application

The **ISOSLEEVE 25** (or **50**) is not suitable in rooms with a high concentration of acid and base.

#### **Barrier**

The ISOSLEEVE 25 (and 50) has standard a barrier. The barrier simplifies the mounting, and the installer will not have unnecessary contact with the glass wool. The article numbers for the ISOSLEEVE 25 and 50 with barrier are resp. DHB $\{\emptyset\}$  and DHB50 $\{\emptyset\}$ .



### Chemical resistance

The outer jacket of the ISOSLEEVE 25/50 consists of aluminum laminate and has a:

- Moderate resistance to acid and base
- Good resistance to organic solvents
   The resistance decreases, if the relative humidity of the air with chemicals, which has to be transported, increases.

# 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.

# Product specific properties.

# ISOSLEEVE 25/50

- Material structure:
  - polyester laminate / glass wool / aluminum laminate
- Construction:

inner duct
 Glass wool blanket:
 Outer jacket:
 ic closed polyester film
 ic 25 (or 50) mm, 16 kg/m³
 ic aluminum, polyester laminate

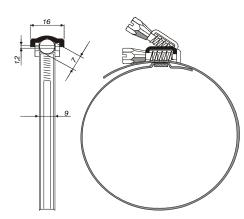
R value glass wool :0.69 (25 mm) or 1.4 (50 mm) m<sup>2</sup>K/W (ASTM C177-76)

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# **METAL CLAMPS**



The **METAL CLAMP** is appropriate to mounting all kinds of flexible ducts.



#### CONSTRUCTION

hardened galvanized steel.

The **METAL CLAMP** has been constructed according to the DIN 3017 standards. The strip has been manufactured out of stainless steel (UNI x 8 Cr 17-DIN 1.4016(W2) - AISI 430). The clamp has been manufactured out of

# **DELIVERY PROGRAM**

METAL CLAMPS are available in a box containing 100pcs.

The diameter range is 50 to 660mm.

Ordering Code: QIP [maximum diameter]

# SUMMARY OF THE DELIVERY PROGRAM

Ordering code	Minimum diameter (mm)	Maximum diameter (mm)
QIP090	50	90
QIP110	60	110
QIP135	60	135
QIP165	60	165
QIP180	60	180
QIP215	60	215
QIP270	60	270
QIP325	60	325
QIP380	60	380
QIP525	60	525
QIP560	60	560
QIP660	60	660

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# MULTIBAND/MULTICLAMPS

The **MULTIBAND/MULTICLAMPS** are suitable for mounting all types of flexible connections. The combination **MULTIBAND/MULTICLAMP** enables you to making a clamp with diameters required at the work station.

The MULTIBAND/MULTICLAMP is particularly suitable for maintenance purposes.



# CONSTRUCTION

The **MULTIBAND** has been constructed according to the DIN 3017 standard. The band has been manufactured out of stainless steel (UNIx8Cr17-DIN 1.4016(W2)-AISI 430) and the thickness is 0.6mm.

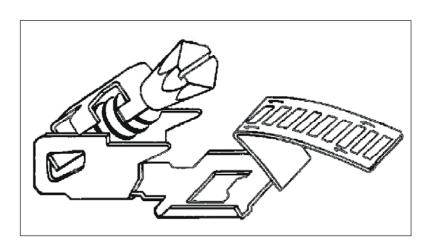
The clamps, **MULTICLAMPS**, have been manufactured out of galvanized steel.

#### INSTRUCTIONS FOR USE

To obtain the **MULTIBAND** in the diameter required:

- Extract the strip from the bos and count the intervals between the arrow indicators (see diameter extension table)
- 2. Cut the strip and bend 2 cm (3/4") in the direction of the arrow
- 3. Fasten the strip to the traction device and press the bend

The **MULTIBAND** is ready for installation



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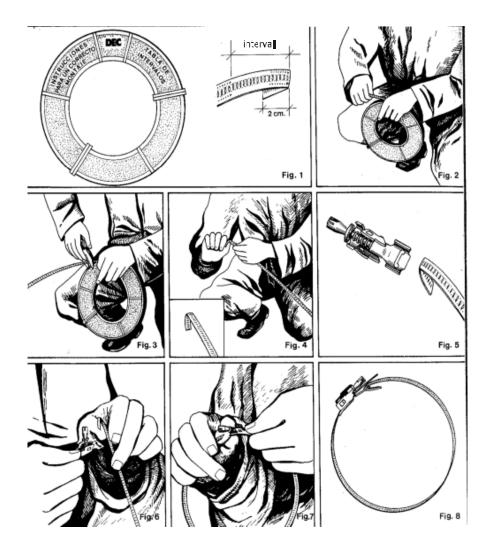
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# MULTIBAND/MULTICLAMPS

### **DELIVERY PROGRAM**

**MULTIBAND** is available in cartons containing 10 rolls. The diameter range is variable. The length of the **MULTIBAND** is 30m and the width is 9mm. The **MULTICLAMPS** are suitable for fastening on the **MULTIBAND**. **MULTICLAMPS** are delivered in boxes, containing 10 cartons with 50 pieces each.

Ordering code for MULTIBAND : QIPBAND Ordering code for MULTICLAMPS : QIPCLAMP

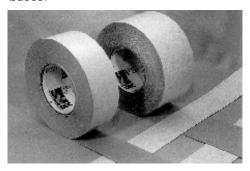


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# **COLD SHRINK TAPE PSB**

**PSB** is a coiling, self-vulcanizing tape for using inside and is particularly appropriate for sealing round and oval ducts.

Because the tape has been drafted to mount easily an 80% labour efficiency is yield comparing to other sealing methods. The tape is particularly suitable for irregular bases.



### CONSTRUCTION

The tape has been built-up out of 2 layers. The outer layer consists of a polyethylene foil with a thickness of 30 microns and provides adhesion and a good processing. The inner layer consists of a thick sealing coat, adhering to almost every surface. The sealing-coat has been covered with silicon paper.

The total thickness is 0.95mm +/- 3%.

#### **DELIVERY PROGRAM**

**PSB**-tape is available in three different standard widths: 050, 075 and 100mm. The standard length is 15m per roll. Ordering code: **PSB3{width}**.

# OPERATING TEMPERATURE.

**PSB**-tape is suitable for application within the following temperature range: -20 up to 60°·C.

# **OPERATING PRESSURE**

**PSB**-tape is suitable for processing up to an over pressure of: +4000Pa (HSTM-0010), measured individually at a temperature of +20°C.

#### **ADHESION**

The product adheres completely within 24 hours. The adhesion to galvanized steel is 3.6 kg/cm, if the surface is fat-free, dust-free and very dry. The adhesion will be most effective if the tape is pressed firmly.

# FIRE RESISTANCE

After testing the tape has been classified into class B2, according to DIN 4102.

#### STORAGE

**PSB** has a lifespan of two years if the packaging is dry and sealed.

# **USERS GUIDE**

THE SURFACE HAS TO BE CLEAN, DRY AND FAT-FREE.

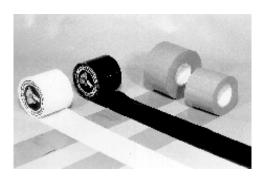
The application temperature must be higher than 5°C. Particularly when the tape is going to be attached at a lower temperature it should be pressed firmly. Applicate mainly on round ducts. A max stretch of 3% is allowed and will help the tape to set itself on the duct. If the duct has a diameter >250mm, some clearance between the ducts can be expected due to the tolerance; we advice to use only **ASB** width 75mm or wider. Use an overlap of 5cm or larger.

Do not use **PSB** for outdoor applications.

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# **PVC TAPE**

**PVC TAPE** is appropriate to many mechanical ventilation systems because of its combination of great adhesive power and great elasticity.



# CONSTRUCTION

The tape has been built up out of a layer of pure plasticized PVC, the inside is provided with a sealing coat of synthetic rubber based adhesive.

Free from lead compounds.

#### **DELIVERY PROGRAM**

**PVC TAPE** is standard available in width 50 mm. The standard length per roll is 10, 20 and 33 m. Total tape thickness is  $190\mu m$ . The standard colour is grey. Other colours are available on request.

# **OPERATING TEMPERATURE.**

**PVC TAPE** is suitable for processing and application within the following temperature range: -18 up to  $+90^{\circ}$ C. **PVC TAPE** is applicable at a temperature between -18°C and +40°C. We advise you to keep the tape at room temperature before applying at temperatures below 0°C.

# OPERATING PRESSURE.

**PVC TAPE** is suitable for processing until an over pressure of: +1000 Pa.

#### ADHESION

The adhesion is 0,4kg/2.5cm if the surface is fat-free and dust-free. The ultimate tensile strength with an elongation of 240% is 10.5kg/2.5cm.

Tensile strength at break: 193 N / 10 mm<sup>2</sup> Adhesion to 2B steel: 1.85 N / 10 mm Adhesion to backing: 1.75 N / 10 mm

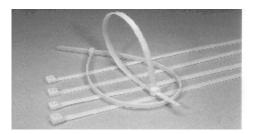
# STORAGE.

**PVC TAPE** has a lifespan of one year at room temperature, if the packaging is sealed.

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# **NYLON QUICK CLAMPS**

The **NYLON QUICK CLAMPS** are suitable for all kinds of flexible connections.



# CONSTRUCTION The NYLON QUICK CLAMPS are manufactured out of nylon 66. Production according to the Military Specification: MIL-S 23190E.

**NYLON QUICK CLAMPS** are available in different standard sizes, the range is 2.5 up to and including 9.0mm. The diameter range is 0 up to 229mm.

# **OPERATING TEMPERATURE**

**NYLON QUICK CLAMPS** are suitable for applications within the following temperature range: -40 up to +85°C



DEC delivers an assembly pliers particularly for the NYLON QUICK CLAMPS. The assembly pliers have a long lifespan and simplifies the application of the NYLON QUICK CLAMPS. They are sold by the piece.

# ORDERING INFORMATION

Ordering code:

NYLON QUICK CLAMP: QCL(length in mm)/{width}

QUICK CLAMP TOOL: QCLOOTA

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# **NYLON QUICK CLAMPS**

# Summary of the delivery program:

Ordering code	Diameter range (mm) min-gross/net <sup>1)</sup>	Length x Width (mm)
QCL100/2.5	0 - 30 / 22.6	2.5 x 100
QCL160/2.5	0 - 50 / 41.4	2.5 x 165
QCL200	0 - 50 / 54.1	4.8 x 203
QCL200/2.5	0 - 60 / 52.5	2.5 x 203
QCL300	0 - 75 / 85.9	4.8 x 300
QCL370	0 - 110 / 106.6	4.8 x 368
QCL450	0 - 127 / 127.3	9.0 x 450
QCL530	0 - 140 / 152.3	9.0 x 550
QCL780	0 - 229 / 234.0	9.0 x 812

1) The diameter range has been stated as a minimum diameter, which is 0 millimeters everywhere. The gross diameter has also been given. The net diameter is the diameter, which, in practice, appears to be the maximum diameter.

**SDS SEALANT** is suitable for using where a large pressure resistance and a short drying time is required. It has an excellent adhesion to aluminium and galvanized steel. Because of the thixotrope<sup>1)</sup> properties the sealant can be used for horizontally and vertically applications. **SDS SEALANT** is often used as a sealing compound for air conditioning systems. **SDS SEALANT** is for indoor use only.



#### CONSTRUCTION

**SDS SEALANT** is a combination of several kinds of rubber. Several resins have been added as an additive. To achieve a good adhesion to slightly oily surfaces a degreasant has been added as well.

SDS SEALANT contains no PVC or silicon.

### **DELIVERY PROGRAM**

**SDS SEALANT** is available in two different packaging, a tube or a can. The tube contains 310ml and the can 5kg. The standard packaging contains 25 tubes or 4 cans.

Ordering code tube(s): **SDS400**Ordering code can(s): **SDS400/5** 

# OPERATING TEMPERATURE

**SDS SEALANT** is suitable for applications within the following temperature range: -25 up to +70°C. The processing has to take place between +5 and 40°C

# **OPERATING PRESSURE**

**SDS SEALANT** is suitable for processing up to an overpressure of: +2500Pa, if applied to a dry and dust-free surface. The surface does not have to be completely oil-free, however the best adhesion results will be on clean surfaces.

# FIRE RESISTANCE

**SDS SEALANT** is, unprocessed, lightly inflammable because of the presence of solvents. In a hardened version the sealant has been classified in class M1 (France).

# **STORAGE**

**SDS SEALANT** has a lifespan of 6 months at room temperature  $(+5^{\circ}C/+30^{\circ}C)$ , if the packaging is sealed.

### **SAFETY**

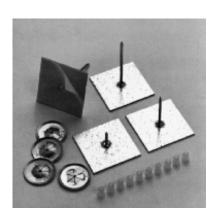
Proper ventilation is needed during processing. Avoid contact with eyes, skin and clothes.

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<sup>&</sup>lt;sup>1)</sup> The sealant is going to get thinner under the influence of short-time/long prolonging vibrations or mechanical loads. If the vibrations or the loads leaves off, the sealant is going to get thicker again. This phenomenon is called rheological: transformation without cracking.

# **SELF-ADHESIVE PINS**

**SELF-ADHESIVE PINS** are suitable for fastening insulation blankets.



#### CONSTRUCTION

The **PINSA** has been manufactured out of galvanized steel. The **PINSA** consists of a pin and a foot. The foot has been provided with a synthetic rubber tack coat. Clamps can be delivered with the pins. The clamp is going to be fastened to the **PINSA** after attaching the insalation blanket. In consequence of this the blanket will stay in the correct position.

The foot has the following size: 50x50 mm Each square metre of insulation blanket needs 10 to 12 pins.

### **SAFETY**

Protective caps (**PINSACAP**) for attacing round the pin are available to the pins. The use of **PINSACAP** is always recommended where people can be injured by projecting pins.

# **OPERATING TEMPERATURE**

The self-adhesive pins are suitable within the following temperature range: -40 up to + 80°C (100°C for short period of time).

The processing, however, has to take place above +10°C.

### **FASTENING**

The best result will be achieved on a dry, fat-free and dust-free surface.

# ORDERING INFORMATION

The caps will automatically be delivered to the pins, but it is also possible to order the protective caps separately (**PINSACAP**).

Extra clamps (PINSACLIP-CL1) are available as well.

Ordering code	Length of pins
PINSA025	25 mm
PINSA032	32 mm
PINSA042	42 mm
PINSA051	51 mm
PINSA063	63 mm
PINSA076	76 mm
PINSA105	105 mm
CL-1	Irrelevant (Ø30mm)
PINSACAP	irrelevant

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# **SELF-DRILLING SCREWS**

**DEC** also introduces an assortment of **SELF-DRILLING SCREWS** in order to process **DEC** products.



# CONSTRUCTION.

The screws have been produced out of galvanized steel. The screw thread continues up to the head. The tail of the screw has been provided with a drill head. So pre-drilling is not necessary.

Associated bits are also available. Each 1000 screws 1 bit.

### **DELIVERY PROGRAM.**

The **self-drilling screws** are available in different sizes.

### ORDERING INFORMATION.

DEC's delivery program includes the following self-drilling screws and bits:

Ordering code	Sizes (mm x mm)	Maximum thickness of plate
SCR3.5/13	3.5 x 13	2.3 mm
SCR3.5/9.5	3.5 x 9.5	2.3 mm
SCR4.2/13	4.2 x 13	3.4 mm
SCR4.2/16	4.2 x 16	3.4 mm
SCR4.2/19	4.2 x 19	3.4 mm
SCR4.2/25	4.2 x 25	3.4 mm
SCR4.2/32	4.2 x 32	3.4 mm
SCR4.2/40	4.2 x 40	3.4 mm
SCR4.2/50	4.2 x 50	3.4 mm
SCR4.8/16	4.8 x 16	4.5 mm
SCR4.8/19	4.8 x 19	4.5 mm
SCR4.8/25	4.8 x 25	4.5 mm
SCRBIT Nº. 1	3.5 mm	Irrelevant
SCRBIT N°. 2	4.2 and 4.8 mm	Irrelevant

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#### **TSD 50**

The semi flexible sound attenuator consists of a corrugated perforated aluminium innerduct and a 2 layer corrugated outerduct with end spigots made of aluminium. The space between the inner and outer duct is filled with 50mm sound absorbing material.

At request a barrier to prevent particle migration can be added.

Article code: TSD50{Ø}/Length

# **Application in practice**

- Air supply systems
- Air conditioning systems
- Insertion loss damper
- Sound attenuator
- Decreasing sound of machines

### Chemical resistance

The inner and outer duct of the TRD50 consist of aluminium and has a:

- Good resistance to many organic solvents
- Moderate resistance to acid and base
   The resistance decreases, if the relative air humidity of the air with chemicals, which has to be transported, increases

### CONSTRUCTION

Inner Duct : Corrugated, perforated aluminium.
 Insulation : Glasswool, thickness 50 mm.
 Outer Duct : 2 layer corrugated aluminium.

Technical data				
Colour aluminium				
Material corrugated aluminium				
Temperature range	-30 up to +250 °C			
Over pressure	max. 2000 Pa			
Under pressure	max. 1500 Pa			
Recommended air velocity	max. 10 m/s			
Standard length	L = 0.5, 0.75, 1.0, 1.5 and 2.0 m			
Bending radius	R = 2  to  3  x D2  (from 1 meter)			

# Fire Rating:

Ducting is tested according DIN4102 and is classified as  ${\bf A1}$  .

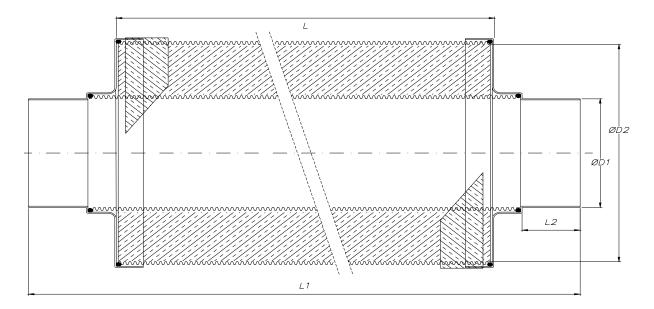
1.8b

# SEMI FLEXIBLE SOUND ATTENUATOR

Sound attenuation, Dimensions and Weights

<u> </u>	Sound attenuation, Dimensions and Weights								
TSD50	TSD50 (Test report nr. A1453-1 Peutz by - The Netherlands)								
D <sub>n</sub>	L	A	ttenuatio	on, dB -	Mid-freq	uency, F	łz	Di	Weight
(mm)	(mtr)	125	250	500	1000	2000	4000	(dB)	(kg)
080	1	11	16	40	55	65	52	32	1.3
100	1	6	13	23	44	62	41	26	1.5
125	1	7	13	26	44	51	28	27	1.7
150	1	5	11	25	44	40	25	24	1.9
160	1	3	11	25	43	40	20	22	2.0
200	1	4	10	21	43	25	14	21	2.5
250	1	3	9	20	39	15	9	17	3.1
315	1	1	5	14	30	11	6	13	3.6

 $D_i$  = Average attenuation



Diameter (Dn) range ØD1 – ØD2 (mm)						
080 – 180	224 – 315					
100 - 200	250 – 355					
125 - 224	280 – 400					
140 - 250	300 – 400					
150 – 250	315 - 400					
160 – 250	355 - 450					
180 – 280	400 - 500					
200 – 300						

L = Effective length

D <  $\emptyset$ 250

L1 = L + 120 mm

L2 = 40 mm

D  $\geq$   $\emptyset$ 250

L1 = L + 160 mm

L2 = 60 mm



#### **TSD 25**

The semi flexible sound attenuator consists of a corrugated perforated aluminium innerduct and a 2 layer corrugated outerduct with end spigots made of aluminium. The space between the inner and outer duct is filled with 25mm sound absorbing material.

At request a barrier to prevent particle migration can be added.

Article code: TSD{Ø}/Length

# Application in practice

- Air supply systems
- Air conditioning systems
- Insertion loss damper
- Sound attenuator
- Decreasing sound of machines

#### Chemical resistance

The inner and outer duct of the TRD consist of aluminium and has a:

- Good resistance to many organic solvents
- Moderate resistance to acid and base
   The resistance decreases, if the relative air humidity of the air with chemicals, which has to be transported, increases

# CONSTRUCTION

Inner Duct : Corrugated, perforated aluminium.
 Insulation : Glasswool, thickness 25 mm.
 Outer Duct : 2 layer corrugated aluminium.

Technical data				
Colour	aluminium			
Material	corrugated aluminium			
Temperature range	-30 up to +250 °C			
Over pressure	max. 2000 Pa			
Under pressure	max. 1500 Pa			
Recommended air velocity	max. 10 m/s			
Standard length	L = 0.5, 0.75, 1.0, 1.5 and 2.0 m			
Bending radius	R = 2  to  3  x D2  (from 1 meter)			

### Fire Rating:

Ducting is tested according DIN4102 and is classified as  $\ensuremath{\textbf{A1}}$  .

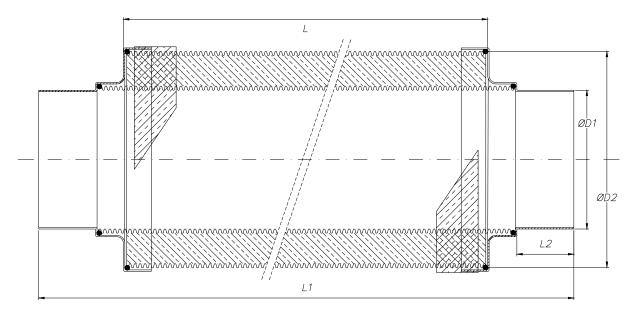
1.8b

# SEMI FLEXIBLE SOUND ATTENUATOR

Sound attenuation, Dimensions and Weights

		, =			9				
TSD25	TSD25 (Test report nr. A1453-1 Peutz by - The Netherlands)								
D <sub>n</sub>	L	A	ttenuati	on, dB -	Mid-freq	uency, F	łz	Di	Weight
(mm)	(mtr)	125	250	500	1000	2000	4000	(dB)	(kg)
080	1	6	8	19	40	64	40	22	0.8
100	1	3	7	15	37	68	33	20	1.0
125	1	5	8	16	31	51	22	20	1.2
160	1	1	4	9	24	50	18	15	1.5
200	1	2	5	9	22	29	12	15	1.9
250	1	1	3	8	21	18	8	13	2.3

 $D_i$  = Average attenuation



Diameter (Dn) range ØD1 – ØD2 (mm)						
080 – 130	224 – 280					
100 – 150	250 – 300					
125 – 180	280 – 355					
140 – 200	300 – 355					
150 – 200	315 – 355					
160 – 200	355 – 400					
180 – 224	400 – 450					
200 – 250	450 – 500					

L = Effective length

D < Ø250

L1 = L + 120 mm

L2 = 40 mm

D≥ Ø250

L1 = L + 160 mm

L2 = 60 mm

# **SEMIDEC®**



**SEMIDEC**® is a very flexible and compressable duct constructed of one layer of corrugated aluminium. By the inter lockseam a high airtighness and flexibility is reached.

# SEMI DEC®

- suitable for mechanical air supply systems and air conditioning systems.
- fire resistant according to the German norm **DIN4102** and to the European norm **EN13501-1** and Classified as **A1**.
- mechanical manufactured according **NEN-EN13180**.

# Applications in practice

# SEMI DEC®

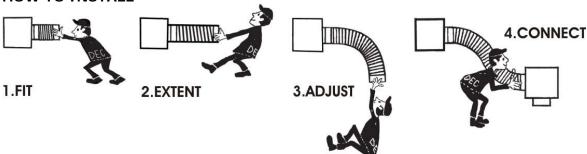
- Mechanical air supply systems
- Air conditioning systems
- Systems, where vapors should be exhausted
- Above mentioned systems, where a special mechanical strength is required

# Chemical resistance

The **SEMIDEC**® consist of aluminium and has a:

- Good resistance to many solvents
- Poor resistance to acid and base
   The resistance decreases, if the relative air humidity of the air with chemicals, which has to be transported, increases.

# **HOW TO INSTALL**



# Restrictions in the range of application

The **SEMIDEC**® is not suitable for transporting air with a high concentration of acid and base.

# PLEASE NOTICE:

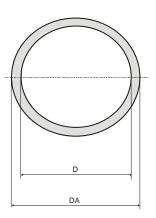
The consultant is responsible for the actual installation and mounting of the product. The mentioned values with respect to temperatures are not appropriate to be used to determine the physical properties. These properties are also dependent on humidity and the temperature of the air inside and outside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

# SEMIDEC<sup>®</sup>

# **Technical Properties**

	SEMI DEC®		
Mechanical properties			
Temperature range (°C)	-30 - +250		
Peak. value (°C)	+400		
Max. operating pressure (Pa)	+3000		
Max. air velocity (m/s)	30		
Diameter range (mm)	050 - 400		
Fire classes according to			
Europe (EN13501-1)	A1		
The Netherlands	1		
(NEN 6065/6066)	1		
Germany (DIN 4102)	A1		
France (CSTB)	MO		
Switzerland (BKZ)	6Q3		
United Kingdom (BS 476)	4, 6, 7 and 20		
Austria (B3800)	A1		
Sweden (Swedcert)	A15		
Italy (CSI)	0		
Technical Data			
Article code	DXD{Ø}		
Material Construction	1 Layer Aluminium		
Minimum bending radius	1 x Ø		
Standard length (meters)	3		
Standard Color	Aluminium		

D (mm)	Tolerance	DA (mm)
050	+1,0 / -0	057
060	+1,0 / -0	067
075	+1,0 / -0	082
080	+1,0 / -0	087
100	+1,0 / -0	107
125	+1,0 / -0	132
140	+1,0 / -0	147
150	+1,5 / -0	157
160	+1,5 / -0	167
180	+1,5 / -0	187
200	+1,5 / -0	207
224	+1,5 / -0	231
250	+2,0 / -0	257
280	+2,0 / -0	287
300	+2,0 / -0	307
315	+2,0 / -0	322
355	+2,0 / -0	402
400	+2,0 / -0	407



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# **SOLID SOUND ATTENUATOR**



### GGLX50

# Straight sound absorber insulated with mineral wool.

The Sound absorber consists of a tube of perforated sheet steel enclosed in a casing and end spigots made of sheet steel. The space between the tube and the Casing is filled with sound absorbing material lined with staple fibre fabric to prevent particle migration.

Fire resistance class E60, E130.

Article code: GGLX50{Ø}/Length

Sound attenuation, Dimensions and Weights

Sound attendation, Dimensions and Weights											
Diameter	Length		Attenuation, dB Mid-frequency, Hz							Ext. Diameter	Weight
mm	Mtr	63	125	250	500	1000	2000	4000	8000	mm	kg
100	0.6	4	8	14	26	34	41	45	25	200	4.1
100	0.9	8	11	21	33	48	50	50	28	200	6.6
125	0.6	3	6	12	22	28	37	38	22	255	4.5
125	0.9	5	9	18	30	40	48	43	24	225	7.6
160	0.6	2	5	10	18	23	33	30	19	260	5.8
180	0.9	3	8	16	27	36	47	37	21	260	9.0
200	0.6	1	4	9	17	22	29	25	18	300	7.0
200	0.9	2	7	13	24	31	44	31	20	300	10.0
250	0.6	0	4	8	15	21	24	20	17	355	8.6
250	0.9	1	6	11	21	27	39	25	19	355	12.2
315	0.6	0	3	7	14	20	20	17	16	415	9.8
315	0.9	0	5	9	18	23	32	20	18	415	15.0

Diameter range: Ø100 mm to Ø400 mm.

Lengths available: 0.6 Mtrs and 0.9 Mtrs



# ACOUSTICALLY INSULATED SONODEC®

**DEC International**® produces different thermically and acoustically insulated products for several purposes.

The **SONODEC**® series:



The **SONODEC**® series consists of a perforated aluminum laminate inner duct, a polyester barrier to prevent the diffusion of glass wool particles, thermically 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 thermically 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

### Chemical resistance

The inner-and outer jacket of the **SONODEC**® consist of aluminum laminate and has a:

- Good resistance to many organic solvents
- Moderate resistance to acid and base The resistance decreases, if the relative air humidity of the air with chemicals, which has to be transported, increases.

### 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®

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

x = not been tested

<sup>=</sup> thickness of the glass wool= two different wires have been used alternately

# SONODEC®

### **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 $\{\emptyset\}$ 

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> :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

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

# SONODEC®

### **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 $\{\emptyset\}$ 

• 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/m³ -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

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

# SPIRAL BENDS

SPIRAL BENDS are appropriate to suspending round duct systems etc.



### CONSTRUCTION

The **SPIRAL BENDS** have been manufactured out of Sendzimir galvanized steel and have a fixed diameter. The threaded rod can be attached to the nut welded on the top of the clamp. The nut is able to processing forces up to 1000 kg.

The **SPIRAL BENDS** are also available with a rubber inner jacket. The rubber inner jacket prevents relaying of vibrations.

### ORDER INFORMATION

The order code of the spiral clamps, without a rubber inner jacket: SBO{diameter}

The order code of the spiral clamps with a rubber inner jacket: **SBRO{diameter}** 

Order code	Diameter (mm)	Thread size welded nut
SB(R)O080	80	M8
SB(R)O100	100	M8
SB(R)O125	125	M8
SB(R)O150	150	M8
SB(R)O160	160	M8
SB(R)O180	180	M8
SB(R)O200	200	M8

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# **STRETCHDEC®**



**STRETCHDEC**® a very flexible duct constructed of one layer of corrugated aluminium. By the tripple lockseam a high airtighness and flexibility is reached.

# STRETCHDEC®

- suitable for mechanical air supply systems and air conditioning systems.
- fire resistant according to the German norm **DIN4102** and to the European norm **EN13501-1** and Classified as **A1**.
- mechanical manufactured according NEN-EN13180.

# **Applications in practice**

# STRETCHDEC®

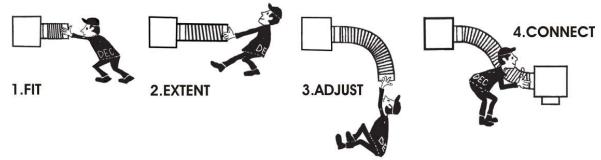
- Mechanical air supply systems
- Air conditioning systems
- Systems, where vapors should be exhausted
- Above mentioned systems, where a special mechanical strength is required

# Chemical resistance

The STRETCHDEC® consist of aluminium and has a:

- Good resistance to many solvents
- Poor resistance to acid and base
   The resistance decreases, if the relative air humidity of the air with chemicals, which has to be transported, increases.

# **HOW TO INSTALL**



# Restrictions in the range of application

The **STRETCHDEC**® is not suitable for transporting air with a high concentration of acid and base.

# 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.

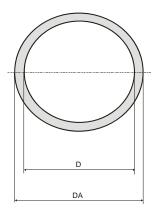
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# STRETCHDEC®

# **Technical properties**

	STRETCHDEC®
Mechanical properties	
Temperature range (°C)	-30 - +250
Peak. value (°C)	+400
Max. operating pressure (Pa)	+3000
Max. air velocity (m/s)	30
Diameter range (mm)	080 - 315
Fire classes according to	
Europe (EN13501-1)	A1
The Netherlands (NEN 6065/6066)	1
Germany (DIN 4102)	A1
France (CSTB)	MO
Switzerland (BKZ)	6Q3
United Kingdom (BS 476)	4, 6,7 and 20
Austria (B3800)	A1
Sweden (Swedcert)	A15
Italy (CSI)	0
Technical Data	
Article code	DXG{Ø}
Material Construction	1 Layer Aluminium
Minimum bending radius	0.76 x Ø
Standard length (meters)	3
Standard Color	aluminium

D (mm)	Tolerance	DA (mm)
080	+1,0 / -0	087
100	+1,0 / -0	107
125	+1,0 / -0	132
150	+1,5 / -0	157
160	+1,5 / -0	167
180	+1,5 / -0	187
200	+1,5 / -0	207
224	+1,5 / -0	231
250	+2,0 / -0	257
300	+2,0 / -0	307
315	+2,0 / -0	322



# **SUPPORT CLAMPS**

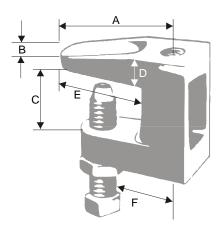
**SUPPORT CLAMPS** are suitable for mounting various parts of air conditioning systems and exhaust systems on structural beams in combination with threaded ends. It is used where drilling is not allowed or too time-consuming.



# CONSTRUCTION

The **SUPPORT CLAMPS** are manufactured out of galvanized steel. The clamps can be fastened on beams with a maximum thickness of 19mm.

### **TECHNICAL DATA**



Туре	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Tested loading	Recomm. loading
M06	26	13	22	10	20	18	620 kg	90
M08	26	13	22	10	20	18	680 kg	110
M10	41	13	19	10	28	25.5	680 kg	110
M12	41	18	19	13	26	25.5	1725 kg	340

# ORDERING INFORMATION.

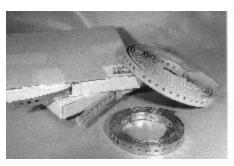
The **SUPPORT CLAMPS** are appropriate to M6 up to M12 threaded ends.

ORDERING CODE: BLKO[wire spacing]

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# SUSPENSION STRAP

**SUSPENSION STRAP** is a flexible multifunctional perforated strap for mounting various parts in air conditioning and ventilation systems.



# **CONSTRUCTION SUSPENSION STRAP** is available in 2 different versions, galvanized and copolymer coated.

The **SUSPENSION STRAP** with the copolymer coating is preferable for systems, which can be damaged by sliding or swinging.

The **SUSPENSION STRAP** is provided with holes for mounting, the holes enable to processing various diameters.



# ORDER INFORMATION

**SUSPENSION STRAP** is available in two linear measures: 10 and 20 meters. The width is 17 or 19 mm. **SUSPENSION STRAP** is available in boxes or on rolls.

The ordering code is:

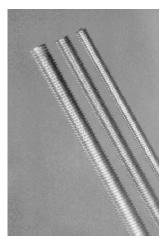
Copolymer coated suspension strap, 10 meters:
Copolymer coated suspension strap, 20 meters:
PP019S
PP019/BOX
Galvanized suspension strap, 10 meters:
PP019S
PP019/BOX
PP019/BOX
PZ017/BOX

Ordering code	Version	Width x length	Packaging	Size holes
PP019S	Copolymer coated	19 mm x 10 m	Rolls	M6
PP019/BOX	Copolymer coated	19 mm x 20 m	Box	M6
PZ017S	Galvanized	17 mm x 10 m	Rolls	M6
PZ017/BOX	Galvanized	17 mm x 20 m	Box	M6

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# THREADED RODS

**THREADED RODS** are suitable for mounting several fasteners for air ducts and flexible ducts. The threaded ends can be applied in combination with **SPIRAL CLAMPS** or **SUPPORT CLAMPS**.



# CONSTRUCTION

The **THREADED RODS** have been manufactured out of electrolytically galvanized steel, class 4.6.

# ORDERING INFORMATION

The **THREADED RODS** are deliverable in a one meter standard length, other lengths on request.

The order code has been constructed out of: [wire gauge]/length.

Ordering code	Wire gauge x length
M6/1	M6 x 1 meter
M8/1	M8 x 1 meter
M10/1	M10 x 1 meter
M12/1	M12 x 1 meter
M16/1	M16 x 1 meter

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**WDS SEALANT** is suitable for sealing cracks and seams in ducts and other metal constructions. **WDS SEALANT** is for indoor use only. Some applications are:

- > Sealing of air duct in air conditioning systems and mechanical air supply systems
- > Finishing for (head ends) and seams of inner- and outer insulation in air ductsystems.



### CONSTRUCTION

**WDS SEALANT** is a combination of various synthetic polymers on a water base. Titanium has been added as an additive. **WDS SEALANT** contains no PVC or silicon.

### **DELIVERY PROGRAM**

**WDS** is available in two different packaging, a tube or a can. The tube contains 310ml and the can 5 kg. The standard packaging contains 25 tubes or 4 cans. Ordering code tube(s): **WDS606** Ordering code can(s): **WDS606/5** 

### OPERATING TEMPERATURE

**WDS** is suitable for application within the following temperature range: -30 up to  $+80^{\circ}$ C. The processing should take place between +5 and  $+30^{\circ}$ C

# **OPERATING PRESSURE**

WDS is suitable for processing until an over pressure of: +2500 Pa

#### DRYING TIME

After 24 - 48 hrs the **WDS sealant** will be completely hard. Time depending on the used thickness and air humidity. The drying time will be 1 - 12 hrs if the thickness of the sealing is 1 mm.

### TOXICITY

Proper ventilation is needed during processing. Avoid contact with eyes, skin and clothes. The **WDS sealant** is non-toxic.

# FIRE RESISTANCE

**WDS** will hardly be inflammable because of the solvents. UL tested Nr.723 (Flamespread 5 – Smokedev. 0)

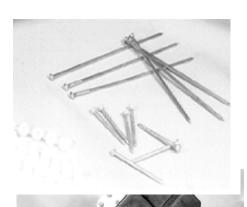
#### **STORAGE**

**WDS** has a lifespan of one year if the packaging is sealed and the temperature is between +5°C and+30°C.

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# **WELDING PINS**

WELDING PINS are, like the self adhesive pins (PINSA), suitable for fastening insulation blankets to square or rectangular air ducts. The pins can also be used for round and oval ducts.



### CONSTRUCTION

The pins have been manufactured out of galvanized steel and provided with a soldering side at the end. Clamps can be delivered with the pins. After attaching the insulation blanket the clamps will be fastened to the pins. This will keep the blanket in the correct position. Protecting caps are recommended where projecting pins can injure people. For each square metre of insulation blanket 10 - 12 pins will be needed.

The soldering side will be activated with a pin

welder. This pin welder enables to attach 6 - 8 pins per minute. Because the pin welder is provided with a timer it is no need to to control the soldering time. The timer can be adjusted to the material of the duct system.

# ORDERING INFORMATION.

It is possible to order protecting caps (SP-CAP) to the WELDING PINS and the clamps Other special clamps (PINSACLIP-CL1) can be ordered. The pin welder (PW-33) is also deliverable.

Ordering code	Length pins
SP-25	25 mm
SP-32	32 mm
SP-42	42 mm
SP-51	51 mm
SP-63	63 mm
SP-76	76 mm
SP-105	105 mm
CL-1	-
PINSACAP	-
PW-33	-

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