



INNOVATIVE, HIGH PERFORMANCE, NON-METALLIC DUCTWORK SYSTEMS

That saves energy, reduced environmental impact
and optimal indoor air quality

spiralite[®]
energy saving ductwork

spiralite®
energy saving ductwork

01

OUR LEGACY

|| We are proud of our contribution to the uae's dynamic growth. **Since 1935, Khansaheb has had the privilege of working on many iconic landmarks across the country.**



02

ABOUT KHANSAHEB

Since 1935 the Khansaheb group has a strong heritage of pioneering innovation and development in the UAE and GCC. Khansaheb Industries LLC was established with a mission to introduce the latest innovative energy efficient products and technologies into the local and regional markets. As a start, we acquired the global intellectual property rights of Spiralite non-metallic ductwork. In addition to several prestigious projects in the UAE, spiralite has been installed in the international markets in UK, Ireland, Spain, Singapore, and Oman, to name a few.

Spiralite – is an innovative ductwork, non-metallic, its unique as per its circular and flat oval shape, it saves energy and promotes better IAQ. The way Spiralite fabricated uses an internal metallic connection reduces the duct leakages near to zero, saving on electricity bills, and the performance of the system will be more efficient.

It's made of Phenolic boards which is one of the best considering the thermal conductivity of the Phenolic, covered with internal anti-bacterial, anti-fungal laminate, with Civil Defence certificates for United Arab Emirates to comply with the authority requirements.

03

Spiralite

KEY BENEFITS

1. Saves Energy – up to 48%

2. Anti-Bacterial Laminate

The unique internal laminate is bacteriostatic, allowing no mold, fungal or hostile microbe growth; an enhanced anti-microbial laminate can be made available with a greater than 99% effectiveness

3. Saves Weight - up to 85%

Lighter than steel - but very robust and strong (can be used for internal, riser, plantrooms and roof)

4. Saves Space

The use of flat oval spiralite can save up to 30% of the space requirements

5. Saves program time

Delivery, installation, variations and defect rectification, with less likelihood of delays and bottlenecks

6. Self-insulated

With no thermal bridges, automatic vapor barriers and therefore no condensation.

7. Airtight and pressure resistant

Rated as class c at 2,500 pa; tested up to 7,667 pa

8. Less static air and friction

Which lowers the pressure drops and power consumption of the HVAC equipment

spiralite®
energy saving ductwork

9. Fire Resistance and smoke performance

With UL181 listing and Civil Defense approved

10. Fast and Easy Delivery to Site

And manual handling; simplify site logistics and H&S requirements

11. Quicker and Easier Installation

With offsite fabrication (save up to 75% installation time)

12. Aesthetic Benefits

In open-to-view environments

13. Acoustic Benefits

with low noise and no reverberation

14. Easier and Cost Effective

to clean and maintain

15. Varied Installation Options :

- Indoors in Varied shape, size, colour or finish effect, so it looks great and is ideal for exposed ductwork.
- Outdoors with an additional weatherproof laminate.
- In risers, plant rooms and other critical areas.



04

Spiralite

SPECIFICATIONS & STANDARDS

Spiralite ductwork comes with a patented manufacturing process complying to various standards as mentioned below:

Physical properties of spiralite ductwork

Parameter	Details & standards
Temperature range	From -10°C to +80°C
Standard thickness	20, 22, 30mm (timsa guide, BS 5422)
Coefficient of thermal conductivity	0.021 w/m.K at 10°C (ASTM C-518)
Compressive strength	210 kpa (ASTM D695-10)
Density	55-60 kg/m ³
Puncture test for the duct	Passed, based on UL181 test requirements
Impact test for the duct (% reduction in area)	Pass, based on UL181 test requirements
High temperature testing of duct	Pass, based on UL181 test requirements
Internal laminate mold growth	No mold growth, 10 rating (ASTM D 3273-12)
Internal laminate bacterial growth	Excellent, superior anti bacterial property (ISO 22196:2011)
Face friction/roughness factor	Low, 0.007 (CIBSE)
Connectors/spigots	Galvanized iron, Aluminum-3003/3005, Stainless Steel- 304/316
Design pressure	+2500 to -750 pa (SMACNA & BSRIA)
Building standard	BSEN 13403:2003 verification for buildings non- metallic Ducts. Ductwork made from insulation duct boards
Fabrication and installation standards	Class "C" air leakage rating (0.003 x p0.65) up to a maximum rating of 2,500 pa (BS EN13403:2003)
Air tightness and pressure resistance	Spiralite fabrication and installation manual
Air outlets, vcds, fds, vavs, attenuators, louvres	Based on the standard available in the market
Supporting and hanging system	Based on spiralite standard
External ductwork	Additional weatherproof uv resistant laminate tested up to 130°C

Fire properties of spiralite ductwork

Parameter	Details & standards
Flame spread index (FSI) and Smoke development index (sdi) of board	Class 1/class A (FSI of less than 20 and SDI of less than 20 – UL 723), ASTM E 84
Internal laminate SDI	FSI 5 and SDI 5 (ASTM E84), VTM-0 (UL 94-2020: Clause11)
Aluminum scrim tape	FSI 10 and SDI 10 (ASTM E84)
Fire behavior of duct	S2,DO (EN ISO 13501-1:2008)

Environment-chemical properties of spiralite ductwork

Parameter	Details & standards
Environment Management System	BS EN ISO 14001:2015 Environmental Management Systems
Corrosion resistance	C5 rating EN ISO 129447 (only attained by special Fabrication and installation using specific materials)
VOC content/emissions – Silicone Adhesive	<43 g/l (product uncured); 0 (zero) g/l (product cured); Low- emitting material in conformance with south coast air Quality management district (SCAQMD) rule 1168 amended January

Quality & safety properties of spiralite ductwork

Parameter	Details & standards
UL	Comply to UL181 requirements
Quality Management System	BS EN ISO 9001:2015 Quality Management Systems
Health and Safety Management	ISO 45001:2018 Occupational Health & Safety

05

DUCT SIZES

The equivalent diameter of the rectangular duct can be found by the following formula:

$$De = 1.30(ab)0.625 / (a + b)0.25 *$$

Velocity can be determined based on the following formula:

$$V = Q/A$$

Where:

V= velocity (m/s)

Q= flow rate (m³/s)

A= round duct area (m²)



The pressure of the duct can be determined based on the following table**:

Size [mm]	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
100 dia	0.19	0.38	0.63	0.92	1.27	1.66	2.11	2.59	3.12	3.70	4.31	4.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125 dia	0.14	0.29	0.47	0.70	0.96	1.26	1.60	1.97	2.37	2.81	3.28	3.78	4.31	4.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150 dia	0.11	0.23	0.38	0.56	0.77	1.01	1.27	1.57	1.89	2.24	2.62	3.02	3.45	3.90	4.38	4.89	-	-	-	-	-	-	-	-	-	-	-	-	-
200 dia	0.08	0.16	0.26	0.39	0.54	0.71	0.89	1.10	1.33	1.58	1.84	2.13	2.43	2.75	3.09	3.45	3.82	4.21	4.62	-	-	-	-	-	-	-	-	-	-
250 dia	0.06	0.12	0.20	0.30	0.41	0.54	0.68	0.84	1.01	1.20	1.41	1.62	1.86	2.10	2.36	2.63	2.92	3.22	3.53	3.86	4.20	4.55	-	-	-	-	-	-	-
300 dia	0.05	0.10	0.16	0.24	0.33	0.43	0.55	0.67	0.81	0.97	1.13	1.30	1.49	1.69	1.90	2.12	2.35	2.59	2.84	3.10	3.38	3.66	3.95	4.26	4.57	-	-	-	-
350 dia	0.04	0.08	0.13	0.20	0.27	0.36	0.45	0.56	0.68	0.80	0.94	1.08	1.24	1.40	1.58	1.76	1.95	2.15	2.36	2.58	2.81	3.04	3.29	3.54	3.81	4.08	4.36	-	-
400 dia	0.03	0.07	0.11	0.17	0.23	0.30	0.38	0.48	0.57	0.68	0.80	0.92	1.05	1.20	1.34	1.50	1.66	1.83	2.01	2.20	2.39	2.60	2.81	3.02	3.25	3.48	3.72	3.96	-
450 dia	0.03	0.06	0.10	0.14	0.20	0.26	0.33	0.41	0.50	0.59	0.69	0.80	0.92	1.04	1.17	1.30	1.45	1.59	1.75	1.91	2.08	2.26	2.44	2.63	2.82	3.02	3.23	3.45	3.67
500 dia	0.05	0.08	0.13	0.18	0.23	0.29	0.36	0.44	0.52	0.61	0.71	0.81	0.92	1.03	1.14	1.24	1.36	1.48	1.61	1.74	1.87	2.01	2.15	2.32	2.49	2.67	2.85	3.04	3.24
550 dia	0.05	0.08	0.11	0.16	0.21	0.26	0.32	0.39	0.47	0.55	0.63	0.72	0.82	0.92	1.03	1.14	1.26	1.38	1.51	1.64	1.78	1.92	2.07	2.23	2.39	2.55	2.72	2.89	-
600 dia	0.04	0.07	0.10	0.14	0.19	0.24	0.29	0.35	0.42	0.49	0.57	0.65	0.74	0.83	0.93	1.03	1.13	1.24	1.36	1.48	1.61	1.74	1.87	2.01	2.15	2.30	2.45	2.61	-
650 dia	0.04	0.06	0.09	0.13	0.17	0.21	0.27	0.32	0.38	0.45	0.52	0.59	0.67	0.75	0.84	0.93	1.03	1.13	1.24	1.35	1.46	1.58	1.70	1.83	1.96	2.09	2.23	2.38	-
700 dia	0.06	0.08	0.12	0.15	0.20	0.24	0.29	0.35	0.41	0.47	0.54	0.61	0.69	0.77	0.86	0.94	1.04	1.13	1.23	1.34	1.45	1.56	1.67	1.79	1.92	2.05	2.18	-	-
750 dia	0.05	0.08	0.11	0.14	0.18	0.22	0.27	0.32	0.38	0.44	0.50	0.57	0.64	0.71	0.79	0.87	0.96	1.04	1.14	1.23	1.33	1.44	1.54	1.65	1.77	1.89	2.01	-	-
800 dia	0.05	0.07	0.10	0.13	0.17	0.21	0.25	0.30	0.35	0.40	0.46	0.52	0.59	0.66	0.73	0.81	0.89	0.97	1.05	1.14	1.24	1.33	1.43	1.53	1.64	1.75	1.86	-	-
850 dia	0.04	0.07	0.09	0.12	0.16	0.19	0.23	0.28	0.32	0.38	0.43	0.49	0.55	0.61	0.68	0.75	0.82	0.90	0.98	1.06	1.15	1.24	1.33	1.43	1.53	1.63	1.73	-	-
900 dia	0.04	0.06	0.09	0.11	0.15	0.18	0.22	0.26	0.30	0.35	0.40	0.46	0.51	0.57	0.64	0.70	0.77	0.84	0.92	1.00	1.08	1.16	1.25	1.34	1.43	1.52	1.62	-	-
950 dia	0.04	0.06	0.08	0.11	0.14	0.17	0.20	0.24	0.28	0.33	0.38	0.43	0.48	0.54	0.60	0.66	0.72	0.79	0.86	0.93	1.01	1.09	1.17	1.25	1.34	1.43	1.52	-	-
1000 dia	0.04	0.05	0.08	0.10	0.13	0.16	0.19	0.23	0.27	0.31	0.35	0.40	0.45	0.51	0.56	0.62	0.68	0.74	0.81	0.88	0.95	1.02	1.10	1.18	1.26	1.35	1.43	-	-
1100 dia	0.05	0.07	0.09	0.11	0.14	0.17	0.20	0.24	0.28	0.32	0.36	0.40	0.45	0.50	0.55	0.61	0.67	0.72	0.79	0.85	0.92	0.98	1.06	1.13	1.20	1.28	-	-	-
1200 dia	0.04	0.06	0.08	0.10	0.13	0.15	0.18	0.22	0.25	0.29	0.32	0.37	0.41	0.45	0.50	0.55	0.60	0.65	0.71	0.77	0.83	0.89	0.95	1.02	1.09	1.16	-	-	-
1300 dia	0.04	0.05	0.07	0.09	0.12	0.14	0.17	0.20	0.23	0.26	0.30	0.33	0.37	0.41	0.46	0.50	0.55	0.60	0.65	0.70	0.75	0.81	0.87	0.93	0.99	1.05	-	-	-
1400 dia	0.04	0.05	0.07	0.09	0.11	0.13	0.15	0.18	0.21	0.24	0.27	0.30	0.34	0.38	0.42	0.46	0.50	0.55	0.59	0.64	0.69	0.74	0.80	0.85	0.91	0.97	-	-	-
1500 dia	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.17	0.19	0.22	0.25	0.28	0.31	0.35	0.38	0.42	0.46	0.50	0.55	0.59	0.64	0.69	0.73	0.79	0.84	0.89	-	-	-
1600 dia	0.04	0.05	0.06	0.07	0.09	0.11	0.13	0.15	0.18	0.20	0.23	0.26	0.29	0.32	0.36	0.39	0.43	0.47	0.51	0.55	0.59	0.64	0.68	0.73	0.78	0.83	-	-	-
1700 dia	0.04	0.05	0.06	0.07	0.08	0.10	0.12	0.14	0.17	0.19	0.22	0.24	0.27	0.30	0.33	0.37	0.40	0.44	0.47	0.51	0.55	0.59	0.63	0.68	0.72	0.77	-	-	-
1800 dia	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.13	0.15	0.17	0.19	0.21	0.24	0.26	0.29	0.32	0.35	0.38	0.41	0.44	0.48	0.52	0.55	0.59	0.64	0.68	0.72	-	-
1900 dia	0.04	0.05	0.06	0.07	0.09	0.11	0.13	0.15	0.17	0.19	0.21	0.24	0.26	0.29	0.32	0.35	0.38	0.42	0.45	0.48	0.52	0.55	0.59	0.64	0.68	0.72	-	-	-
2000 dia	0.04	0.05	0.06	0.07	0.08	0.10	0.12	0.14	0.16	0.18	0.20	0.22	0.25	0.28	0.30	0.33	0.36	0.39	0.42	0.45	0.48	0.52	0.55	0.59	0.64	0.68	0.72	-	-

ASHRAE Fundamentals Handbook Data Calculated using CIBSE guide C:

- 4 .3 fluid flow in straight pipes and ducts.
- 4 .8 air flow in ducts
- air temperature t = 20 °c
- air density ρ = 1.2 kg/cm
- material roughness k = 0.007 mm

FLAT OVAL

The dimension of the flat oval we are using area is less than equivalent rectangular and square, the speed will be a bit higher due to that, however, for the velocity will be used the same equation mentioned up & for the pressure we are using the same table but first we need to find the equivalent diameter by using the following equation from ASHRAE HVAC 2001 Fundamentals Handbook.

$$D_e = \frac{1.55AR^{0.625}}{P^{0.250}}$$

where **AR** is the cross-sectional area of flat oval duct defined as

$$AR = (Ta^2/4) + a(A-a)$$

and the perimeter **P** is calculated by

$$P = ta + 2(A-a)$$

Where:

P= perimeter axis of flat oval duct, mm

A= minor axis of flat oval duct, mm

a= minor axis of flat oval duct, mm

06

Spiralite

UNIQUE JOINT SYSTEM

JOINING OF MULTIPLE SECTIONS



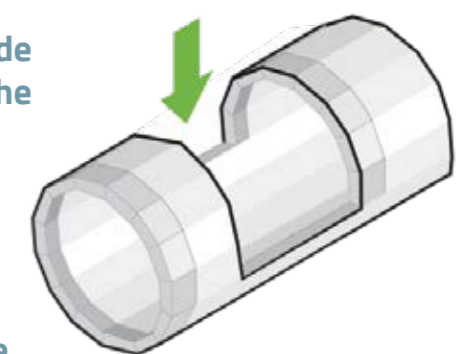
Depending on diameter size, **two to six sections of spiralite can be joined into position ready for installation together** due to the light weight and strength of the product and robustness of the connection.

The required size shoe is **marked on the outside diameter of the spiralite duct and matches the shoe size**

The outline of the shoe must be cut along the mark using a specialist cutting tool.

Be careful to stay within the marked area

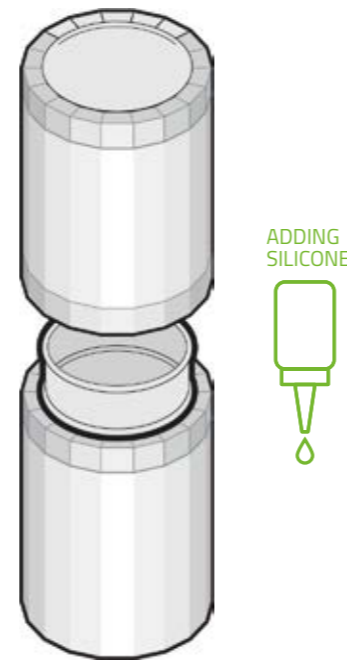
Check that **the cut - out area matches with the size of the shoe** to be inserted.



CONNECTING DUCT SECTIONS

When using an internal connector, the two sections of duct are positioned to insert the one male joining internal connector equally into each section of duct.

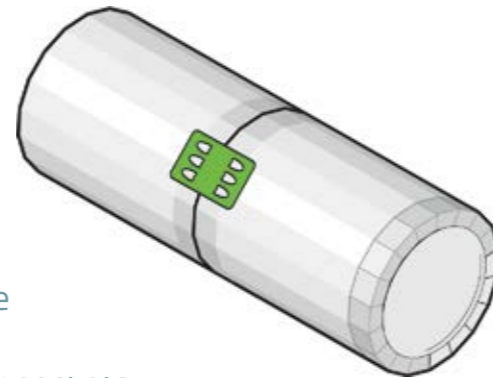
Use the **plastic spatula** (boning tool) to apply pressure to squeeze the inside edge of the sections to make it easier to insert the internal connector. The silicon can only be applied before the connector is inserted.



The internal connectors are made to the dimensions so that they fit tightly in the duct. **Extra pressure may have to be applied** to allow the internal connector to be inserted, but first apply silicone internally **25mm** from the duct end.

Ensure that the duct sections are pushed firmly together so that there is no gap between them. Short tapes must be applied equally to hold the two sections together.

TIGER CLIP INSTALLATION



The two sections of Spiralite® are rotated to give straight-line appearance to the exterior. This proper application of the tape and to prevent air pockets.

Once the sections have been aligned a toothed metal plate ("**tiger clip**") is inserted into the middle of the flat section to ensure the two ducts stay aligned.

Tiger clips should be fully inserted (flush with the outside of the duct) at 3, 6, 9 and 12 o'clock, but if the ducting has a diameter of 600mm or greater then 6 tiger clips should be inserted, with even spacing between.

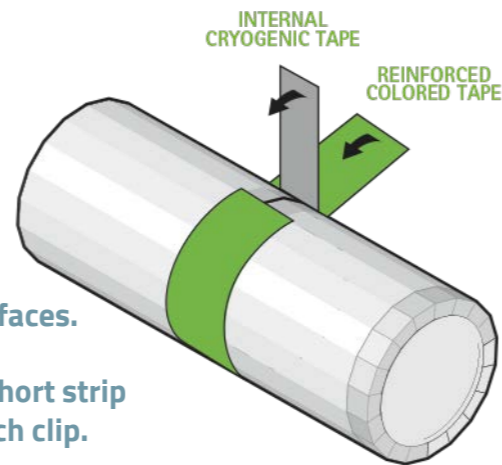
Do not push the middle of the tiger clips when inserting them as they will bend. **Push equally on either side of the clips.**



07 APPLICATIONS

Tape Application

1. Tape should only be **applied on clean and dry surfaces.**
2. Once the tiger clips have all been fitted . **Apply a short strip of on internal cryogenic tape along the length of each clip.**
3. **Apply 1 length of internal cryogenic tape around the circumference** of the joint to form a secure and complete airtight vapour seal
4. Then apply **a second application of either 1 x 125 mm wide foil faced reinforced tape or 1 x coloured tape as per the tape usage table page 14.**
5. Remove entrapped air/bubbles from the underside of the tape **by vigorously using a plastic spatula (boning tool).**



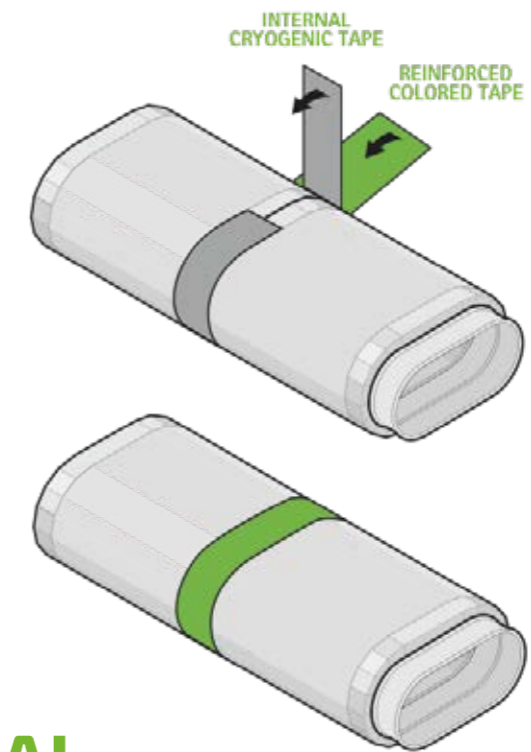
Smoothing the tape

As referred to elsewhere, it is of critical importance that all tapes and laminates be properly and consistently applied to clean and dry surfaces.

This covers the application of :

internal cryogenic tape foil reinforced tape at joints and connections laminates and special tapes

Proper application through **boning ensures no peeling, full airtightness and no air bubbles, making for a secure, robust and long - lasting ductwork system.**



EXTERNAL

For external (outdoor) ductwork, where a coloured laminate is applied to the outside of the duct, **first use internal cryogenic tape to make the connection and then apply matching tape for a proper finish.**

This should be one continuous **length starting and finishing in the least visible area.**

As the tape is pulled around, use the boning tool to properly secure it. **Be careful to ensure that there are no creases or air bubbles.**

As before, **never apply tape onto a wet, oily or dirty surface** and this is particularly important in external applications where weatherproofing is required.

Proper application of the laminate and joining tape, as detailed above, will weatherproof the duct and connections.

Ensure that test holes and other insertions are properly sealed so as not to compromise the weatherproofing and to prevent the ingress of moisture.

08

Basic principles for

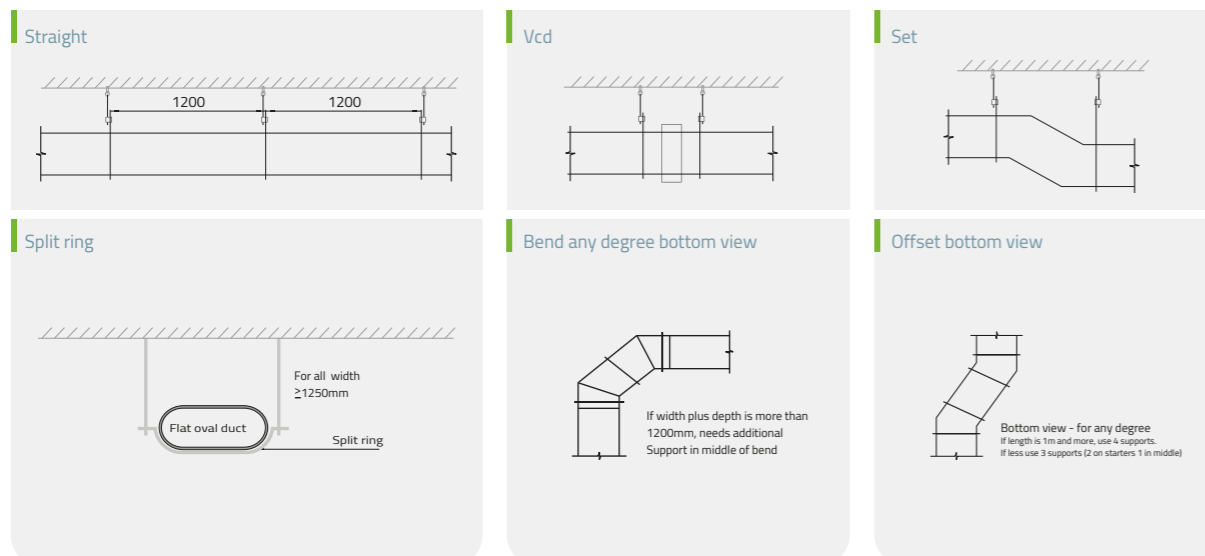
INSTALLATION

For basic duct hanging methodology (uses wire, threaded rod or split rings) refer to DW144 for full specification and supports must always be provided at the joints.

Hanging Guide

Supports types and spacing for Spirallite flat oval duct

Width	Support type	Spacing (mtr)
100mm to 650mm	Wire/split ring/band/channel	2.0/2.4
700mm to 1000mm	Wire/split ring/band/channel	1.2
> 1050mm	Split ring/band/channel	1.2

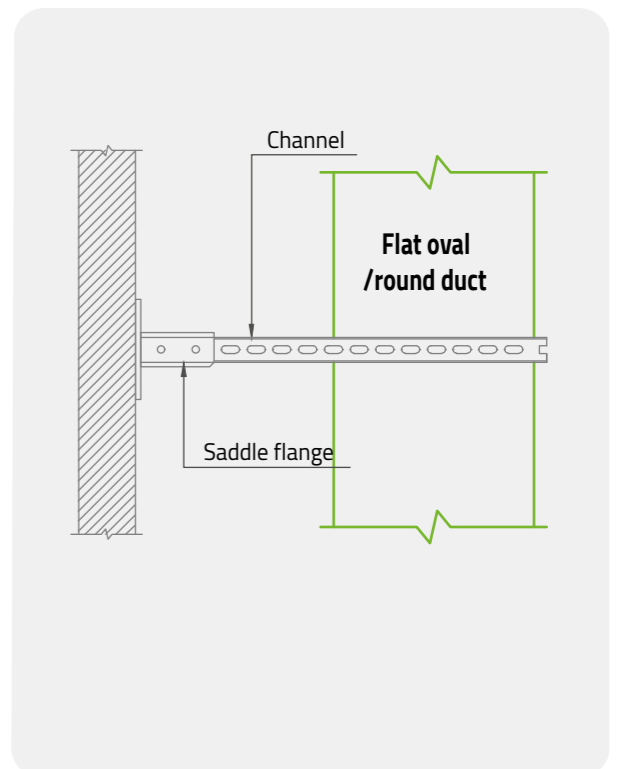
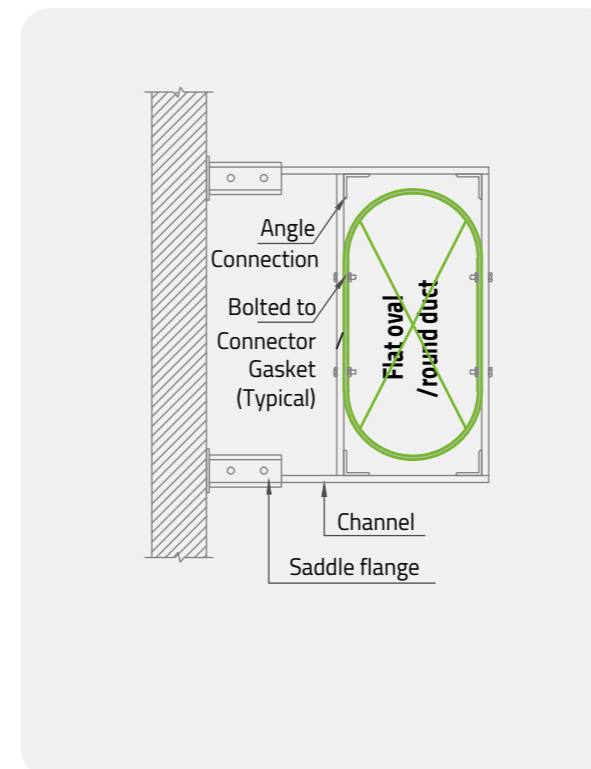


RISER DUCT

Note: round duct bolts at 4 corners

Top view

Side view



Installation of Branch Box **USING BOX SHOES**

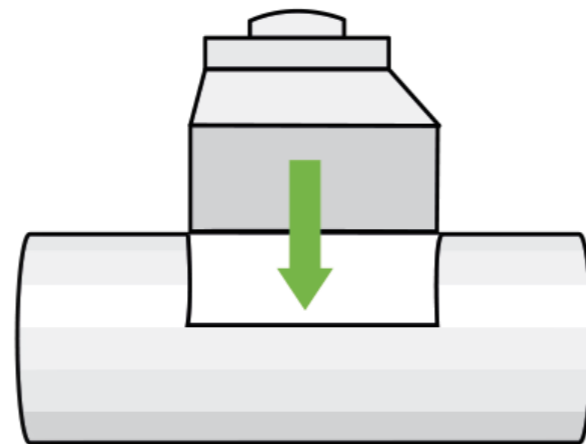
The branch is then positioned onto the Duct - make sure that it is a tight fit with No gaps between the shoe and the duct.

Insert metal toothed (Tiger) clips
To stop the movement of the shoe
And make a secure connection.
Insert an additional tiger clip
For every 300mm, across the length
Of the shoe.

Apply internal Cryogenic Tape
(Same as the duct laminate) and
Silicone to the inside of the shoe
To cover all the joints and edges.

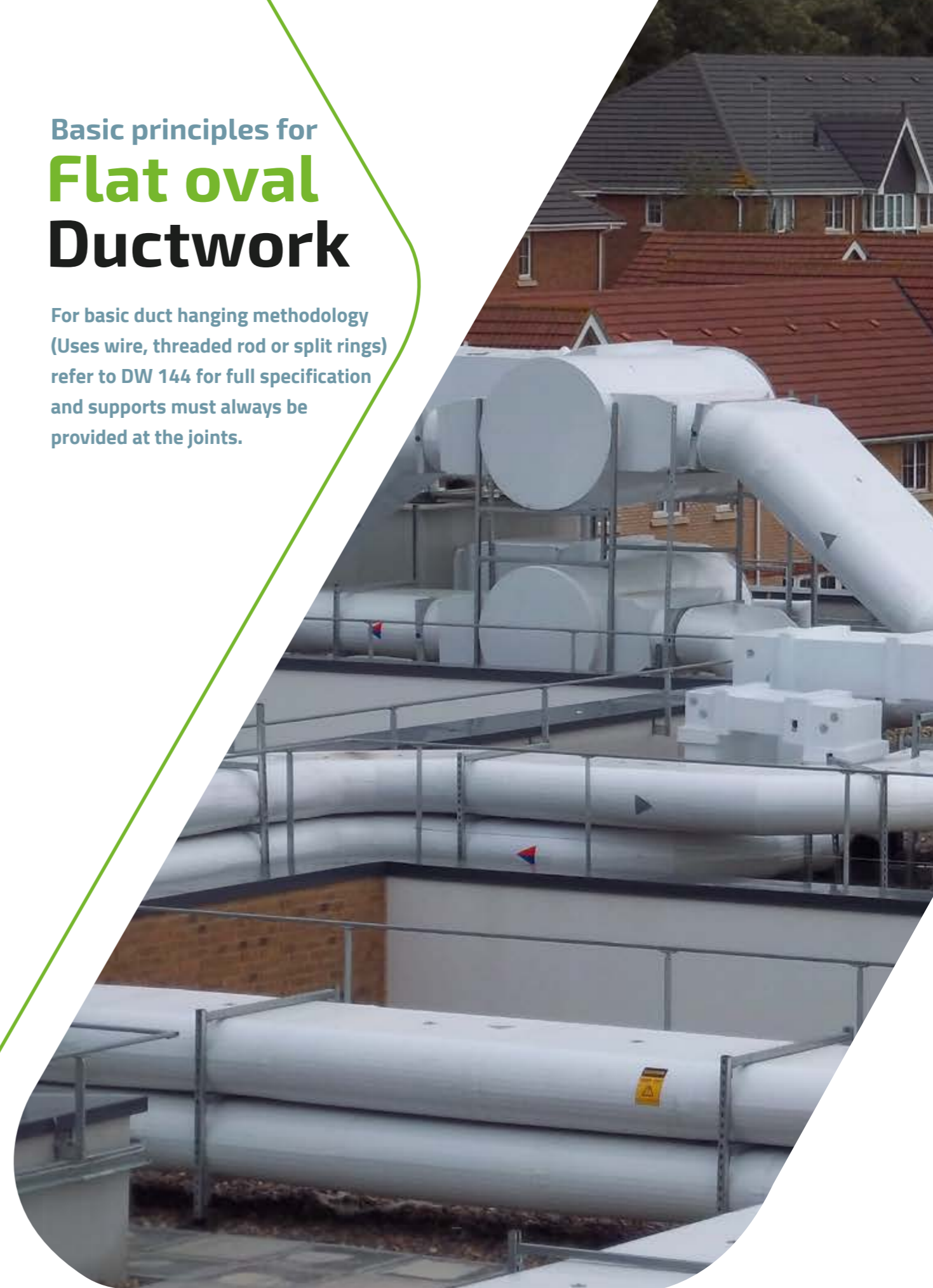
Ensure that the tape is properly applied and there are no air bubbles
by using the recommended boning tool.

Add silicone at the edges of the tape to ensure it does not rise



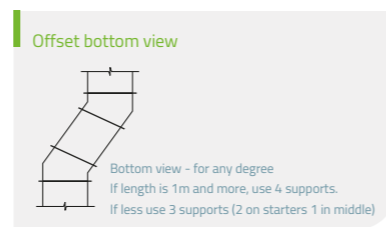
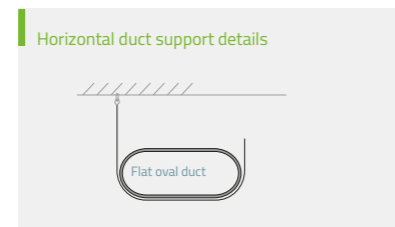
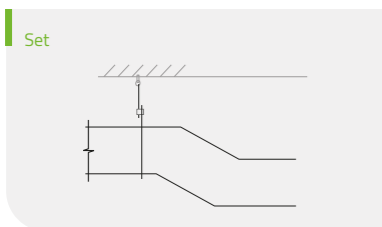
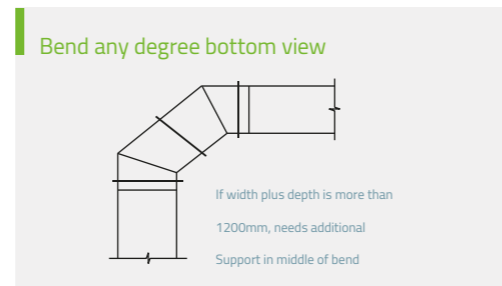
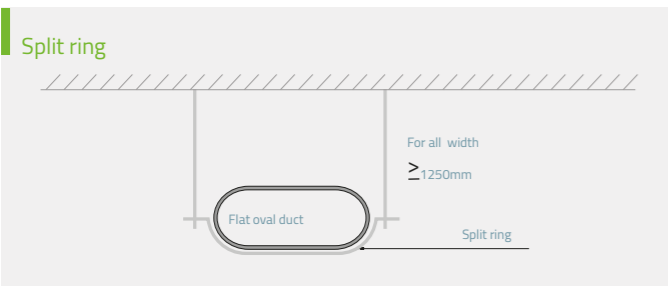
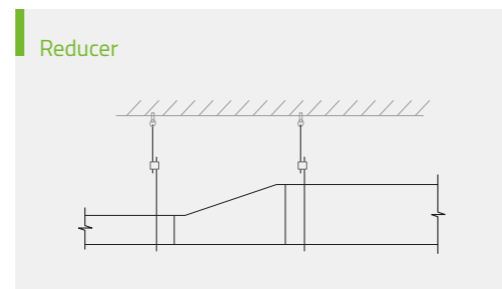
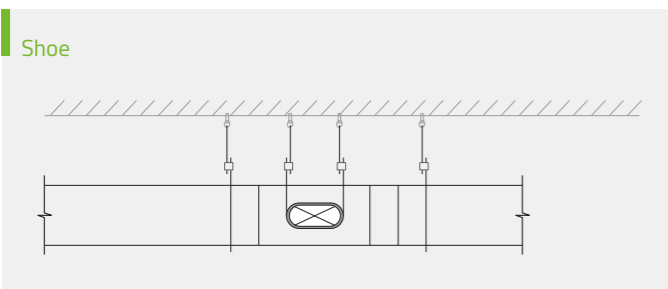
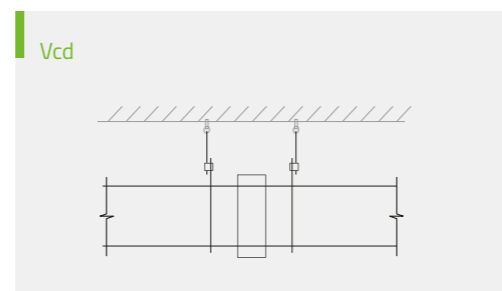
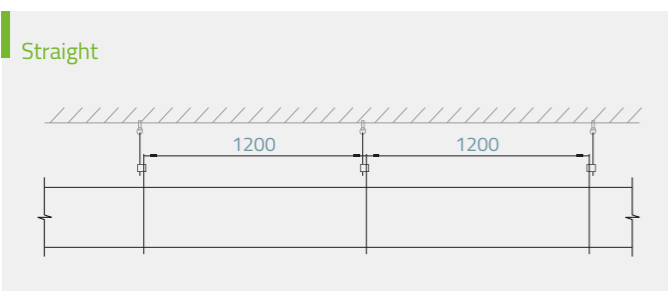
Basic principles for **Flat oval Ductwork**

For basic duct hanging methodology
(Uses wire, threaded rod or split rings)
refer to DW 144 for full specification
and supports must always be
provided at the joints.



Supports types and spacing for spiralite flat oval duct

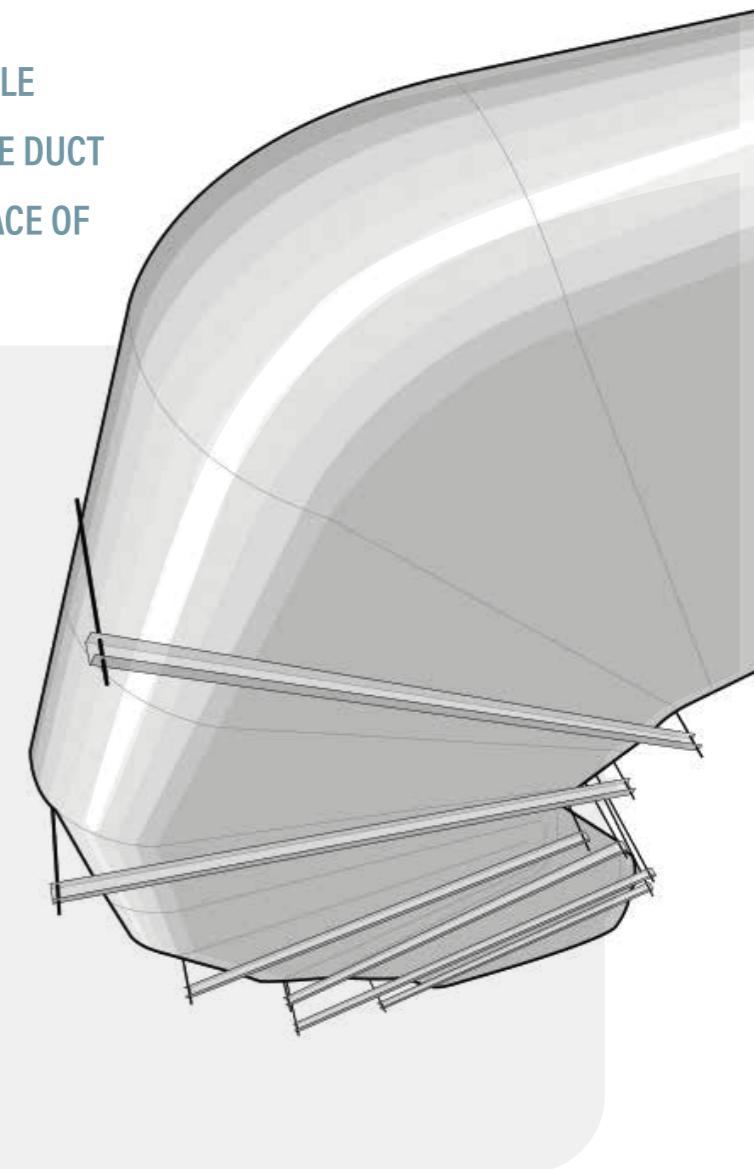
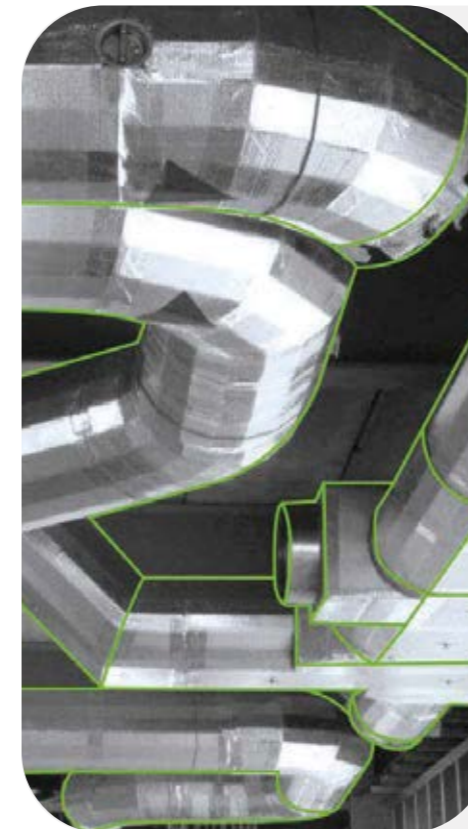
Width	Support type	Spacing (mtr)
100mm to 650mm	Wire/spiltring/band/channel	2.0/2.4
700mm to 1000mm	Wire/spiltring/band/channel	1.2
>1050mm	Spiltring/band/channel	1.2



What should Spiralite INSTALLATION LOOK LIKE

WHEN THE DUCT SIZE IS MORE THAN 1250MM (>1250MM DIA. CIRCULAR OR > 1250MM WIDTH FLAT OVAL), USE CURVED METAL BRACKETS/SPOILITE RINGS/ FLAT CHANNELS THAT MATCH THE SHAPE OF DUCTWORK TO PREVENT SAGGING OF DUCT SECTIONS.

A SELF - ADHESIVE FOAM STRIP OR SUITABLE GASKET SHOULD BE PLACED BETWEEN THE DUCT AND THE SUPPORT TO PROTECT THE SURFACE OF THE DUCTWORK



09 CERTIFICATES

Manufacturer's License ترخيص مصنع

رقم الترخيص License Number: M 134
عدد التراخيص Number of Licenses: 1 - 1

رقم التسجيل Registration Number: 1222410
رقم الترخيص License Number: 756079

اسم المصنع Name of Factory: خانصاحب للصناعات لمالكها خانصاحب للاستثمار شركة الشخص الواحد ش.ذ.م.
اسم صاحب الترخيص Owner of the License: عبدالرحمن عبدالعزيز حسين خانصاحب

الجنسية Nationality: الإمارات
الجنسية Nationality: ***

رقم الهاتف Office Phone Number: ***
رقم الفاكس Fax Number: ***
م.ب. P.O. Box: ***

عنوان الشركة Company Address: قطعة ارض رقم 7 في مجمع الصناعات الوطنية - 070609

الموقع / البريد الإلكتروني Email of the Company: Murali.natarajan@khansaheb.ae

تأسست بتاريخ Company Registered Date: 2016/04/20 م
تاريخ الإصدار License Issued: 2022/03/03 م
تاريخ الانتهاء License Expired: 2023/03/02 م

تم إصدار الترخيص استناداً إلى القرار الوزاري رقم (213) لسنة 2017، في شأن تنظيم خدمات الدفاع المدني. The license is issued pursuant to Ministerial Decision (213) of year 2017 pertaining the regulation of civil defense services.

للتوارئ EMERGENCY 997

شهادة تسجيل مورد Supplier Certificate

رقم التسجيل / Registration No: EQ_15050_3
الاسم التجاري / Commercial Name: Khansaheb Industries owned by Khansaheb Investment One Person Co LLC

الإدارة / Address: 048806605
الهاتف / Phone: 13
م.ب. / PO Box: 048886615
الفاكس / Fax: 048886615

مجال التسجيل / Registration Fields: 1. Product Name: Central Air conditioning Requisites Manufacturing - Brand: Khansaheb Industries - Country: United Arab Emirates

التوصية / Recommendation: 20/03/2021
تاريخ الإصدار / Issue Date: 19/03/2022
تاريخ الانتهاء / Expiry Date: NA 24-02/2021

رقم الإصدار وتاريخه / Receipt No. & Date: NA 24-02/2021

ملاحظة: هذه الشهادة صادرة من وزارة الطاقة والنسبة الصحية والإنتاج إلى تاجر أو صانع رسومي. يفسر هذه الشهادة غرضية في حال إنبعث صاحب الرخصة التجارية تسرباً أو تكون الوكالات التجارية مضمومة بالتصديقات القانونية اللازمة من الجهات المختصة لذلك.

CERTIFICATE OF PRODUCT CONFORMITY

Dubai Central Laboratory Department (DCLD) of Dubai Municipality hereby attests that the product(s)

Pipe and Duct Insulation
(Details as per the attached Scope of Certification)
manufactured by:

JIANGYIN W.T. THERMAL INSULATION MATERIAL CO. LTD.
Huangtang Development Zone, Xuxiake Town, Jiangyin City, Jiangsu, China

have been assessed in accordance with DCLD Document Ref. No. DM-DCLD-RD-DP21-2001 (IC) "General Rules for DM third party product certification system through factory assessment" and the relevant Specific Rules, and were found in conformity with the standard specification:

2017 AL SA'FAT DUBAI GREEN BUILDING EVALUATION SYSTEM
Accordingly, DCLD hereby authorizes the above manufacturer to affix the DCL Product Conformity Mark on the above-mentioned product(s).

for / ENGR. AMIN AHMED AMIN
Director, Dubai Central Laboratory Department
Dubai Municipality

Certificate No: CL19020664
Valid Until: 16/03/2022

Current Issue Date: 17/03/2021
Original Issue Date: 17/03/2019

The attached Scope of Certification bearing the same Certificate Number forms an integral part of this Certificate. This Certificate is an electronic document subject to the Terms and Conditions of the Product Certification System and shall not be reproduced except in full.

EmiratesGBC
مجلس الإمارات للأبنية الخضراء
Emirates Green Building Council

This is to certify that

Spiralite – Khansaheb Industries
Supports the promotion and development of Sustainable Buildings in the United Arab Emirates, and is a **Corporate Member** of the

مجلس الإمارات للأبنية الخضراء
Emirates Green Building Council

January 2022 – December 2022

H.E. Ali Al Jassim
Chairman

Habiba Al Marashi
Co-Founder & Treasurer



DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME

SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL19020664

Certificate Issued To JIANGYIN W.T. THERMAL INSULATION MATERIAL CO. LTD.
Huangtang Development Zone, Xuxi Lake Town, Jiangyin City, Jiangsu Province, China

Applicable Standard Specification: 2017 Al Sa'fat - Dubai Green Building Evaluation System

Applicable Specific Rules: DM-DCLD-RD-DP21-2185 (IC) Specific Rules for Factory Assessment (FA) Certification of Pipe and Duct Insulation as per Al Sa'fat - Dubai Green Building Evaluation System

S/N	PRODUCT DESCRIPTION	BRAND NAME	PRODUCT DETAILS
1.	DUCT INSULATION MATERIALS PHENOLIC FOAM INSULATION PANEL CFC Free (see Note 3)	HAWA / PI / EASY / WT SPECIALITE	DUCT INSULATION MATERIALS PHENOLIC FOAM INSULATION PANEL Manufactured with either embossed reinforced aluminum foil facing or aluminum foil facing on both sides PHENOLIC FOAM INSULATION PANEL Manufactured with plain aluminum foil facing on both sides Minimum Density of 55 kg/m ³ for 20 mm & Minimum Density of 50 kg/m ³ for 30 mm Panel dimensions: Length = 3900 to 4000 mm Width = 1200 mm Thickness = 20 mm - 30 mm Thermal Conductivity of 0.036 W/m.K @ 15°C & 60% RH (Maximum Value) (Water Vapor Permeance = 0.00 g/Pa.s-m ²) is meeting the requirements of Table 1 of BS 5422:2009

Page 1 of 2

P.O. Box 67, DCL, Zabeel Road, Karama, Dubai, UAE
OPEN DATA / [معلومات مفتوحة](#)

DM-DCLD-F-IC-2022-03



DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME

SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL19020664

Note 1: This document forms part of the Certificate of Product Conformity bearing the same certificate number.
Note 2: The above products shall bear the DCL Conformity Mark.
Note 3: CFC Free as per declaration from the company, in accordance with the 2017 Al Sa'fat - Dubai Green Building Evaluation System.

Original Issue Date: 17 March 2021
Current Issue Date: 17 March 2021
Valid Until: 16 March 2022



ARIF HUSAIN AL MARZOOQI
Products Conformity Assessment Section Manager
Dubai Central Laboratory Department

Page 2 of 2

P.O. Box 67, DCL, Zabeel Road, Karama, Dubai, UAE
OPEN DATA / [معلومات مفتوحة](#)

DM-DCLD-F-IC-2022-03

CERTIFICATE OF COMPLIANCE

Certificate Number MH64187
Report Reference MH64187-20211217
Date 2022-January-04

Issued to: KHANSAHEB INDUSTRIES
P.O BOX 13
DUBAI, UAE AE

This is to certify that representative samples of AIR DUCTS
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 181, Factory Made Air Ducts and Air Connectors

Additional Information: See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.


UL LLC
9740 Woodloch Forest, Suite 100, Northbrook, IL 60062, USA



Any information and documentation bearing UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact your UL Customer Service Representative at <https://www.ulprospector.com>

CERTIFICATE OF COMPLIANCE

Certificate Number MH64187
Report Reference MH64187-20211217
Date 2022-January-04

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Phenolic foam rigid duct consisting of a flat board of phenolic foam core with aluminum facer on both sides


UL LLC
9740 Woodloch Forest, Suite 100, Northbrook, IL 60062, USA



Any information and documentation bearing UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact your UL Customer Service Representative at <https://www.ulprospector.com>

spiralite®
energy saving ductwork



Khansaheb Industries LLC
P.O. Box: 13 - Dubai, UAE
Tel.: 04-8806605 | Fax: 04-8886615
Email: khansaheb_industries@khansaheb.ae