

UNITED ENGINEERING INC.

PROFESSIONAL CONSULTING ENGINEERS

THIS SHOP DRAWING IS:

- ☒ REVIEWED
☐ REVIEWED AS MODIFIED
☐ REVISE AND RESUBMIT
☐ SUBMIT HYDRO FOR APPROVAL

The review of these shop drawings is for general design only and shall not relieve the contractor from conforming to the contract drawings and specifications.

All dimensions and sizes shall be checked

DATE:

Oct. 7, 2021

CHECKED BY:

MECH.

L. Matthews

ELEC.

**GULF·O·FLEX[®]**

PRODUCT OF RUBBERWORLD

COMPLETE RANGE OF QUALITY HVAC PRODUCTS

Rubber World

Rubber World Industry LLC was established in 1993 to manufacture a comprehensive and versatile range of technically advanced Rubber NBR Insulation products. Part of the Shaikhani Group of Companies, RWI is a pioneer UAE national enterprise that has become an industry leader in the entire Gulf and South-East Asia region.

Today we supply 56% of the region's requirements for rubber NBR insulation products, and trade in the complete range of HVAC & R products. International exports to USA, Europe, Africa, and Far East Asia has enabled the company to achieve remarkable multi-million-dollar revenue and overall global success.

Gulf-O-Flex®

Having become a world leader in engineered foams, Rubber World Industry LLC developed "Gulf-O-Flex®" as our flagship brand in Rubber NBR insulation. Gulf-O-Flex® products ensure a high level of reliability through the careful selection of raw materials and constant quality control. Our continuous effort to offer the most appropriate insulation system with the perfect balance of cost ratio has been the formula for our success.

Gulf-O-Flex® products are dust free, fiber-free, CFC free, and have an ODP of zero for environmental friendly products. They are also formaldehyde free, have low VOCs, and resistant to mold and mildew. All our products comply with all major international standards.

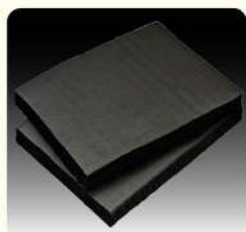
Insulation Tube & Coil



TUBES RANGE

- Plain
- Aluminium Facing
- Aluminium Facing, Slit with Adhesive
- Aluminium Facing, Slit without Adhesive
- Aluglass Facing
- Slit without Adhesive
- Slit with Adhesive
- Continuous Coil
- Coloured

Insulation Sheet Rolls & Slabs



SHEETS RANGE

- Roll
- Box
- Aluminium Facing
- Aluglass Facing
- Black Glass Cloth
- Coloured
- With Adhesive
- Without Adhesive
- Sound Resistant and Sound Proofing
- Duct Liner
- For Base Control and Vibration
- For Duct Outer Process
- For Flooring (3mm)
- For Sports Track

TECHNICAL DATA

S.No.	SPECIFICATIONS	INDEX	TEST METHOD	
1.	MATERIAL	NBR		
2.	CELL STRUCTURE	CLOSED CELL		
3.	DENSITY (KG/M ³)	50 – 80 KG/M ³	ASTM C 302:1995 ASTM D 3575-91	BS EN 1602:2013 UL746A
4.	THERMAL CONDUCTIVITY "K" AT 35°C MEAN TEMPERATURE	0.033 W/M-K	ASTM C 518	BS 874 1986
5.	TEMPERATURE LIMITS (°C) CONSULT SALES PERSON FOR APPLICATIONS WITH TEMPERATURES BELOW -40°C & HIGHER THAN +120°C	-40°C TO +120°C	ASTM C 534	
6.	THERMAL STABILITY % SHRINKAGE	2.54 (7 DAYS AT 105°C)	ASTM D 3575-91	
7.	FLEXIBILITY	EXCELLENT	ASTM D 1056-85	
8.	WATER ABSORPTION	2.98	ASTM D 3575-91	
9.	WATER VAPOUR PERMEABILITY PERM/MAX	0.00 PERM - IN	ASTM E96/96M	MEETS THE REQUIREMENTS OF TABLE 1 OF BS 5422:2009
10.	WATER VAPOUR DIFFUSION RESISTANCE FACTOR "μ"	>7300	BS EN 12086	
REACTION TO FIRE				
11.	FLAMMABILITY	Self-Extinguishing V-0 5VB	ASTM D 635-91 UL94	
12.	FIRE RATING	Class O, Class 1 25/50 RATED	BS 476 Part 6 & 7 ASTM E 84	UL 723
13.	AVERAGE TIME OF BURNING	Less than 4 sec.	ASTM D 1149	
14.	AVERAGE EXTEND OF BURNING	15 min.		
ENVIRONMENTAL				
15.	GLOBAL WARMING POTENTIAL (GWP) OZONE DEPLETION POTENTIAL (ODP) RESISTANCE TO OZONE	EXCELLENT	ASTM D 1149	ASTM D 1171
16.	RESISTANCE TO WEATHER & UV RAYS	EXCELLENT	ASTM G 154 ASTM G 155	ASTM G 23
17.	RESISTANCE TO FUNGI/ MILDEW	NO FUNGAL GROWTH	ASTM G 21	ASTM C 1338
18.	RESISTANCE TO BACTERIA	NEGLIGIBLE	ISO 22196	ASTM E 2180
19.	RESISTANCE TO CORROSION	PH NEUTRAL	ASTM C 692	EN 13468
20.	DUST, FIBRE & ASBESTOS	FREE	EPA 600	
21.	CHLOROFLUOROCARBON (CFC) & HYDRO CHLOROFLUOROCARBON (HCFC)	FREE	GC – MS	
22.	ODOUR	NEGLIGIBLE	SAE J1351	
23.	RESISTANCE TO CHEMICALS	EXCELLENT	ASTM C 871	
24.	LEACHABLE CHLORIDES	<0.05 (WATER-SOLUBLE CHLORIDE IONS)	ASTM C 692 DIN 1988	EN 13468
25.	EMISSION (VOC) VOLATILE ORGANIC COMPOUNDS	VERY LOW (<6μG/M ³)	ASTM D 5116	
26.	REDUCTION OF HAZARDOUS SUBSTANCES (ROHS)	ND	ICP-OES	IEC 62321-B
ACOUSTIC PROPERTIES				
27.	SOUND ABSORPTION COEFFICIENTS FREQUENCY (HZ) 1/2" (13 mm) 1" (25 mm) 2" (50 mm)	NRC = 0.38 NRC = 0.49 NRC = 0.55	ASTM C 423	
28.	SOUND TRANSMISSION CLASS	6 (insulation) 38 (Insulation Adhered To Steel Duct)	ASTM E-90	
29.	STORAGE LIFE	SELF-ADHESIVE & FACING: SHEETS/ ROLLS/ TUBES/ TAPES	1 YEAR	STORE IN DRY, CLEAN & VENTILATED SPACE

SPECIFICATION COMPLIANCE

ASTM C 518

ASTM D 1056-00-2C1

CLASS 0

(Fire propagation test according to BS 476 part 6
complies with the requirements of UK.)

CLASS 1

(Surface spread of flame according to BS 476 part 7
complies with the requirement of UK.)

ASTM E-84 (25 / 50)

* Available upon request



Class 0 & Class 1 Approved by:



RUBBER INSULATION TUBES PER BOX

INSULATION ID		WALL THK 3/8", 9mm	WALL THK 1/2", 13mm	WALL THK 3/4", 19mm	WALL THK 1", 25mm	WALL THK 1-1/4", 32mm	WALL THK 1-1/2", 38mm	WALL THK 2", 50mm
INCHES	mm	PCS/CTN	PCS/CTN	PCS/CTN	PCS/CTN	PCS/CTN	PCS/CTN	PCS/CTN
1/4	6	168	90	50	35	15	***	***
3/8	10	130	80	40	25	15	***	***
1/2	13	115	65	40	25	15	12	6
5/8	16	90	60	35	20	12	8	6
3/4	19	76	45	30	20	12	8	6
7/8	22	70	40	30	20	12	8	6
1	25	55	40	25	20	12	8	6
1-1/8	29	55	36	25	18	12	8	6
1-1/4	32	40	30	20	15	12	6	4
1-3/8	35	36	30	20	15	12	6	4
1-1/2	38	30	24	17	12	10	6	4
1-5/8	41	30	25	17	12	8	6	4
1-7/8	48	25	20	15	10	8	6	4
2	51	25	20	15	9	8	4	4
2-1/8	54	25	20	15	9	8	4	4
2-3/8	60	20	18	12	9	7	4	3
2-1/2	64	20	15	10	8	7	4	3
2-5/8	67	20	15	10	8	7	4	3
2-7/8	73	***	15	10	6	6	3	3
3	76	***	12	10	6	6	3	3
3-1/8	79	***	12	10	6	6	3	3
3-1/2	89	***	10	8	6	4	3	2
4	102	***	6	6	4	4	3	2
4-1/8	105	***	6	6	4	4	3	2
4-3/8	111	***	6	6	4	4	3	2
4-1/2	114	***	6	6	4	4	2	2
5	127	***	4	4	4	3	2	2
5-1/8	130	***	4	4	4	3	2	2
5-3/8	137	***	4	4	3	3	2	***
5-1/2	140	***	4	4	3	3	2	***
6	152	***	***	4	3	3	2	***
6-1/8	156	***	***	4	3	3	***	***
6-3/8	162	***	***	4	3	3	***	***
6-1/2	165	***	***	***	3	3	***	***

RUBBER INSULATION SHEET ROLLS

WALL THICKNESS		SIZE	
INCHES	mm	LENGTH (m)	WIDTH (m)
1/4	6	30	1
3/8	9	20	1
1/2	13	14	1
5/8	16	12	1
3/4	19	10	1
1	25	8	1
1-1/4	32	6	1
1-1/2	38	4	1
2	50	4	1

RUBBER INSULATION SHEET BOXES

WALL THICKNESS		SIZE		PCS
INCHES	mm	LENGTH (m)	WIDTH (m)	PER CARTON
1/4	6	1	1	30
3/8	9	1	1	26
1/2	13	1	1	20
5/8	16	1	1	16
3/4	19	1	1	14
1	25	1	1	10
1-1/4	32	1	1	6
1-1/2	38	1	1	4
2	50	1	1	4

Note:

- Aluglass, Adhesive & Aluminium Foil Finishing is available in same sizes.
- **Tolerance:** ± 5% for Length, Thickness & Internal Diameter.
- Sizes can be customised, contact salesperson for more information



**RUBBER
WORLD**
INDUSTRY



GULF-O-FLEX®
PRODUCT OF RUBBERWORLD

Gulf-O-Flex® Accessories



Canvas Cloth



**Sealant 30-36
& 30-36 AF
(Canvas Coating)**



Glue 81-10



**Sealant 32-17
(Acrylic Sealant)**



**Glue 81-10
(AC Duct
Adhesives)**



**Rubber Cork
Pad**



**Metal Sandwich
Pad**



**Full Ribbed
Rubber Pad**



**Uninsulated
Duct**



**Flexible Insulated
Duct**



**Self-Adhesive NBR
Foam Tape**



Duct Cloth Tape



Aluglass Tape



**Aluminium FSK
Tape**



Aluminium Tape



Flange



Cleat



Clamp



Corner



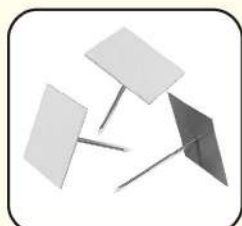
PVC Tape



Duct Connector



**Semi-Rigid
Flexible Aluminium
Duct**



Stuck-Up Pin

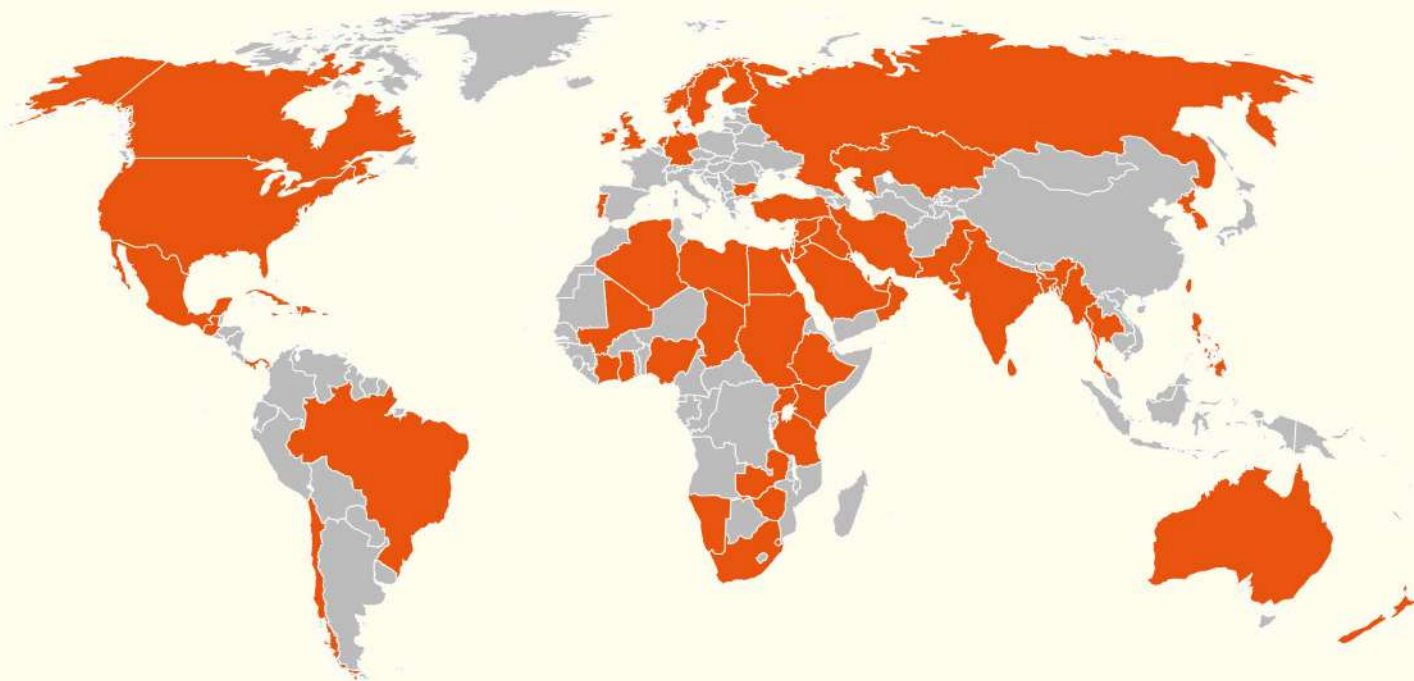


Spiral Duct



**RUBBER
WORLD**
INDUSTRY

Region & Countries



AVAILABLE IN OVER 90 COUNTRIES GLOBALLY



**RUBBER
WORLD**
INDUSTRY

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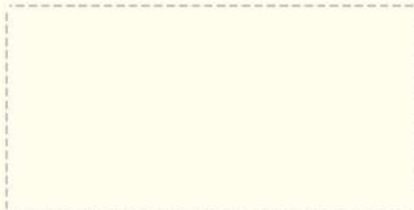
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PRODUCTS FOR RUBBER MATERIALS

