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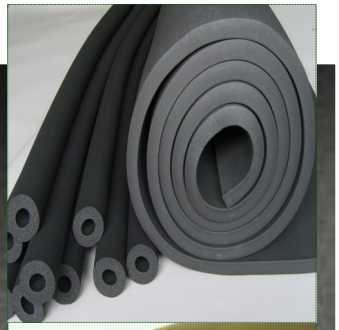
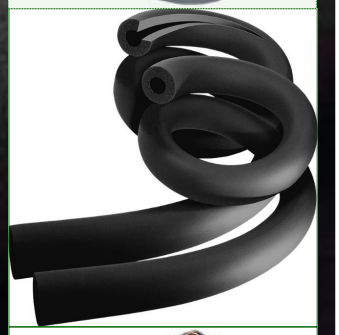
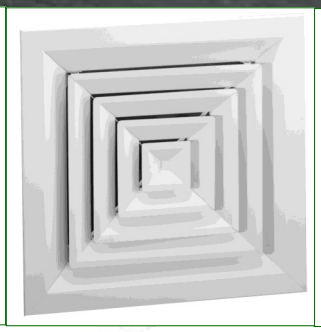
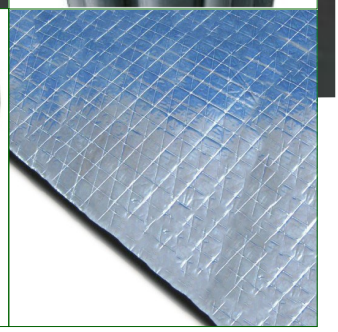
SUPAFLEX









SUPAFLEX DESCRIPTION

SUPAFLEX Closed Cell Tubing & Sheet Insulation is a flexible and light –weight elastomeric thermal insulation designed for insulating liquid cooling and heating lines, ductworks, tanks and vessels. The expanded closed cell structure forms a vapour barrier to prevent sweating or condensation on cold lines. It also efficiently retards heat loss on hot lines. Stable thermal conductivity during service, due to its dense surface skins and closed cell characteristics.

SUPAFLEX insulation is used for such systems as plumbing, hot water heating, air conditioning and refrigeration. It prevents heat gain and condensation problems on chilled water refrigeration pipelines, and it also prevents heat loss from hot water plumbing, liquid and dual temperature piping.

TUBING:

SUPAFLEX Insulation is highly flexible, elastomeric materials. It is quick and easy to install on piping or tubing. The talcum powder on the thick and inner skin help to speed up pre-assembly lines or by using existing lines using SUPAFLEX adhesive.

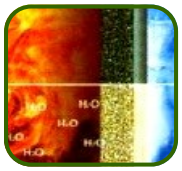
EXCELLENT PRODUCT PERFORMANCE

Better thermal insulation

SUPAFLEX Insulation adopts special formula process, full closed cell structure, lower, longer and more steady thermal conductivity, obviously energy saving effect.

Stronger fireproof performance

SUPAFLEX Insulation is non combustible material, has thermo stability, fireproofing of high quality performance, fire prevention function is vastly improved.



Longer service life

Full closed cell of SUPAFLEX Insulation more efficiently resistance the moisture, guarantee the long-term stability of physical properties, mostly prolong the service life.

Much easier installation

Wide application , easy installation, short construction period, high efficiency and more economy.

PHYSICAL PROPERTY

AVERAGE PHYSICAL PROPERTY	RATING	TEST METHOD
Cellular Structure	Very Fine-Closed Cell	
Density (kg/m³)	70-90	ASTM D1667
Thermal Conductivity Mean	<=0.04 w/m°C	
Temp @ 10°C	(<=0.0346 K ca/mh°C	ASTM C518
Temperature Limits °C	-25°C = 150°C	
Thermal Stability (% shrinkage)		ASTM C534
7 days - 200°F	4.5	
7 days - 200°F	5.5	
Fire Resistance	Class 0	BS 476 Part 6
	Class 1	BS476 Part 7
	Self Extinguishing	ASTM D – 635
	V.O 5VA	UL 94
Toxicity	4.9	NES 713
Water Absorption (%W/W	<=4.37	ASTM C272
Water Vapour Permeability	0.29 ug. m/N.h	ASTM E96
Kg/Pa.s.m	8.17 x 10.14	
Mildew Resistance	No Fungal Growth	
Weather and Ultraviolet	Good	
Ozone Resistance	Excellent	ASTM D1171
Chemical Resistance	Good	
Odour	Negligible	
Flexibility	Excellent	
Elongation	Excellent	
Manufacturing Process	Without CFC, Asbestos	
	Chlorine. Fiber	

PROPERTIES

- Low thermal conductivity (K value) which makes efficient and effective in the insulation of cooling or heating systems.
- It is suitable for application within the temperature range of -25°C -+105°C.
- SUPAFLEX Rubber Insulation has excellent ozone and ultraviolet resistance.
- It is CFC, asbestos, chlorine and fiber-free and does not cause skin allergy.
- It is also inert to most chemical agents and neutral to pipe metals.
- It is able to withstand tearing, rough handling and severe site conditions.
- At -25°C, SUPAFLEX Closed cell Insulation becomes hard and as temperature drops below 25°C it becomes increasingly brittle; however, this hardening characteristics does not affect the thermal efficiency or water vapour permeability. On heating cycle, SUPAFLEX will with stand temperature up to 105°C.
- The smooth surface materials gives the finished installation a neat and aesthetic appearance. No coating is necessary in most indoor installation.
- The average physical properties and values obtained in accordance with the accepted test method.

APPLICATION & RECOMMENDATION

- Measure the size of the required for the installation of the insulation material. Cut the material to the measured size specifically.
- Use a sharp knife with a straight edge. Make sure that you make your cuts as precise as possible. The slightest difference in the discrepancy of an accurate cut can compromise the integrity of your insulation. Also, a straight edge blade suits the purpose better than the new serrated knives because it does not tear the fiber ending of your insulation materials may result to poor thermal insulation, moisture and fungal build up and cooling inefficiency.
- Do not stretch the sheets and always apply unto a dry, dust-free and greaseless smooth surface facing the outmost side to maintain high adhesive strength.
- The surface of your ducting activity which you plan to insulate must be thoroughly cleaned and in heated to ensure proper adhesion and installation.
- Joining seams may prove difficult once the adhesive begins to harden so affix the pieces accurately, and neatly to refrain from making erroneous installation. It is also recommended that to seal ducting joint that strips be used.
- Half sections of SUPAFLEX tubing may also be used to insulate the seams in the ducting's.

THICKNESS RECOMMENDATION TO CONTROL CONDENSATION IN PIPE INSULATION OF COOLING LINES

DESIGN CONDITIONS	PIPE SIZE	PIPE LINE TEMPERATURE			
		14.4°c	7°c	25°C	-18°C
		58°f	(44.6°F)	(36°F)	(0°F)
MILD CONDITION	**10mm ID to 76mm IPS**	**9mm**	**9mm**	**9mm**	**19mm**
26.7°C (80°F)	Above 76mm IPS to 127mm IPS	9mm	9mm	9mm	25mm
50% RH	Above 127mm IPS to 254mm IPS	13mm	13mm	13mm	25mm
NORMAL CONDITION	**10mm ID to 76mm IPS**	**9mm**	**13mm**	**13mm**	**25mm**
29.4°C (85°F)	Above 76mm IPS to 127mm IPS	9mm	13mm	13mm	31mm
70% RH	Above 127mm IPS to 254mm IPS	13mm	13mm	13mm	31mm
SEVERE CONDITION	**10mm ID to 76mm IPS**	**13mm**	**19mm**	**19mm**	**38mm**
32.2°C (90°F)	Above76mm IPS to 127mm IPS	13mm	25mm	25mm	38mm
80% RH	Above 127mm IPS to 254mm IPS	13mm	25mm	31mm	50mm
EXTREME SEVERE CONDITION	**10mm ID to 76mm IPS**	**13mm**	**25mm**	**25mm**	**38mm**
32.2°C (90°F)	Above 76mm IPS to 127mm IPS	19mm	31mm	31mm	50mm
85% RH	Above 127mm IPS to 254mm IPS	25mm	31mm	38mm	50mm

- Insulation Material above 76mm with thickness of 36mm are in pre-cut sheets. Recommended thickness for various room conditions for best results are as follows:

MILD: Air conditioned and try areas.
NORMAL: Average room conditions (29.7°C and room humidity of 70%)
EXTREME: Above normal temperatures and humidity. These conditions may require additional insulation.

DESIGN CONDITIONS	METAL SURFACE TEMPERATURE				
	15°C (59°F)	12°C (53.6°F)	7°C (44.6°F)	2.5°C (36.5°F)	-18°C (0°F)
26.7°C (80°F)	9mm	9mm	13mm	19mm	25mm
50% RH					
29.4°C (85°F)	13mm	13mm	19mm	25mm	31mm
70% RH					
32.2°C (90°F)	13mm	19mm	25mm	31mm	50mm
80%					
32.2°C (90°F)	25mm	25mm	31mm	38mm	50mm
85% RH					

INSTALLATION

GOOD FOR HOT AND COLD

The physical property values obtained in accordance with accepted test methods. At -25C insulation material becomes harder and as temperatures drop lower becomes brittle but this does not affect thermal efficiency nor vapour permeability. The fire rating standard method tests conducted under controlled conditions in secured confides measure the spread of a flame on a material to compare and determine its hazard standard should an actual fire occur.

SUPAFLEX Piping and Sheet Insulation is a precision-machined mechanical insulation system developed specifically as a lightweight non-fibrous alternative to conventional fibrous and elastomeric products. The insulation system is safe and recommended for all food/clean environments. Durable and efficient insulation products that provided years of maintenance free, reliable service.

PIPING AND TUBINGS INSTALLATION

SUPAFLEX Pipe Insulators, provide a quick and efficient way to insulate pipes for refrigeration, cooling and heating. Insulation material should be fitted on pipes that are dry, clean and unheated. There are two major methods of affixing pipe and tubing insulation material unto your desired fitting. The slip-on method, which is used mostly for new pipes before they are connected or installed. The other method, the snap on methods is for pipes that have already been installed or connected. Tubing's can be easily cut and fashioned into fittings for either joints like bends, Ts and elbows. For screwed fittings, sleeve fitting covers should be made from tubing of the same thickness as the used pipe.

The inner diameter must be large enough to overlap the first insulation material on the pipe. It is important not to compress the tubing material as the insulation value maybe compromised and condensation may occur. Select the right size tubing insulation for the pipe to be insulated. Avoid stretching the material over the pipe. The length of the insulation tubing should cover the section of the pipe to be insulated adequately, this is to ensure that there will be no strain on the surface joints of the tubing's and the pipe. Seal the seams and joints accordingly.

SUPAFLEX tubing insulation is easy and quick to install. SUPAFLEX should only be applied to pipes that are clean, dry and unheated. The slip-on method is used to insulate new pipes before they are installed or connected whereas the snap-on method is used when pipes have already been installed and connected. SUPAFLEX can be cut to length or slit lengthwise with a sharp knife. The inner surface of the tubing is slightly powered to permit the tubing to be slipped easily over the pipe. Seal pipe with plugs while installing the tubing insulation to prevent powder from entering the refrigeration's system.

It is more important to compress the tubing material as the insulation value maybe degraded when this happens and condensation may occur on the compressed area. Select the right size tubing insulation for the pipe to be insulated. Avoid stretching the material over the pipe. The insulation tubing should cover the section of the pipe to be insulated adequately, to ensure there will be no strain on the surface and joints. Seal the seams and butts with adhesive.

INSULATION FITTINGS

SUPAFLEX Tubing can be easily cut and fabricated into fittings for either sweat or threaded joints like bends, Ts and elbows on both old and new existing lines. For screwed, fittings, sleeved fitting cover should be fabricated from tubing of same wall thickness as used on the pipe. The inner diameter of the fittings must be large enough to overlap the insulation on the straight pipe.

DUCTING INSULATION

SUPAFLEX sheets and roll insulation are extremely flexible and especially adaptable elastomeric closed cell thermal insulation materials as SUPAFLEX tubing.

METHOD

Measure the size of sheets required for insulation. Cut the materials to the measured size with a sharp knife or straight edge. Ensure that cuts are as accurate as possible and with smooth edges to ensure full contact with mating sheets when bonded together. Do not stretch sheets and always apply with smooth skin surface facing out. The surface of ductwork to be insulated must be thoroughly clean, dry, oil free and unheated to ensure proper adhesion.

STANDARD PACKING

I.D. SIZE	RUBBER INSULATION (QUANTITY: PIECES/CARTON)						
	9mm (3/8 in) NOM	13mm (1/2 in) NOM	19mm (3/4 in) NOM	25mm (1 in) NOM	32mm (1-1/4 in) NOM	40mm (1-1/2 in) NOM	50mm (2 in) NOM
1/4"	150	--	--	--	--	--	--
3/8"	120	80	49	30	30	--	--
1/2"	100	72	42	25	25	12	--
5/8"	80	56	36	24	24	10	8
3/4"	72	49	33	20	20	9	8
7/8"	56	42	24	20	20	8	6
1"	--	30	20	16	16	8	6
1-1/8"	42	30	20	16	16	8	6
1-3/8"	36	25	16	12	12	8	6
1-5/8"	30	20	16	12	12	6	5
1-7/8"	24	18	12	9	9	5	4
2-1/8"	18	15	9	9	9	5	4
2-3/8"	15	15	9	8	8	5	4
2-5/8"	--	13	8	6	6	--	--
2-7/8"	--	10	8	6	6	5	--
3-1/8"	--	10	6	6	6	--	--
3-1/2"	--	10	6	6	6	4	--
3-5/8"	--	10	6	--	--	--	--
4-1/2"	--	--	--	6	--	4	2
5-1/2"	--	--	--	4	--	2	1
6-1/2"	--	--	--	4	--	2	1

I.D. SIZE	RUBBER SHEETS QUANTITY: PIECES / CARTON			
	1mt x 8ft	1mt x 10ft	3ft x 4ft	4ft x 30ft
1/2"	--	--	22	1
3/4"	--	--	14	1
1"	--	--	11	1
1-1/4"	--	1	9	--
1-1/2"	--	1	7	--
2"	1	--	6	--

FOAM TAPE	
SIZE (THICKNESS X WIDTH X LENGTH)	# OF ROLLS / CARTON
1/8 x 2 x 30 ft	24
1/4 x 2 x 15 ft	24
1/4 x 3/4 x 10ft	40
1/4 x 3/4 x 30 ft (FOAM GASKET)	72

RUBBER DUCT INSULATION

- Flexible nitrile rubber duct insulation—easy to cut and supply
- Improved indoor air quality
- Available with aluminum foil or plain with an improved fire rating
- High flexibility for ease of fitting
- Closed-cell structure provides a build-in water vapour barrier throughout the material

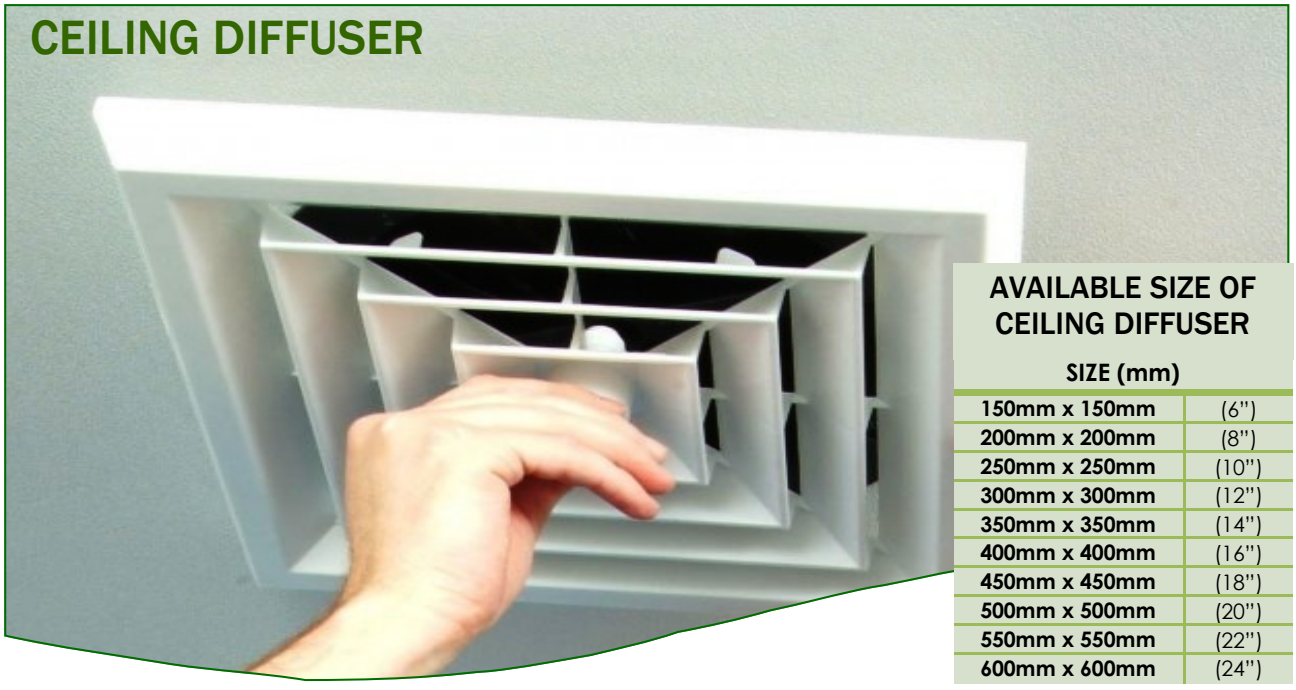
Flexible duct insulation is a black, closed cell insulation material with a bright silver finish. It is especially designed and produced for the thermal and acoustic insulation of air-conditioning ducts. It reduces heat losses and the closed-cell structure prevents water vapour transmission, thus avoiding the risk of corrosion.

Material Type: Elastomeric foam based on synthetic rubber.
Material Special Information: Self-adhesive coating: pressure-sensitive adhesive coating on modified acrylate basis with mesh structure. Covered with polyethylene foil.
Application: Insulation of rectangular and cylindrical air ducts.

TECHNICAL DATA

PROPERTY	VALUE / ASSESSMENT			SPECIAL REMARKS
TEMPERATURE RANGE				
TEMPERATURE RANGE	MAX. SERVICE TEMPERATURE		+110°C	
	MIN. SERVICE TEMPERATURE		-50°C	
THERMAL CONDUCTIVITY				
THERMAL CONDUCTIVITY	t_m 0	°C	λ =	
	SHEETS 9 – λ ≤ 0.036 25mm	W/ / (m . k)	$[36 + 0.1 . t_m + 0.0008 . t_m^2] / 1000$	
	SHEETS λ ≤ 0.038 32 – 40mm	W/ / (m . k)	$[38 + 0.1 . t_m + 0.0008 . t_m^2] / 1000$	
WATER VAPOUR DIFFUSION RESISTANCE				TESTED ACCORDING TO EN 13469
WATER VAPOUR DIFFUSION RESISTANCE	μ	≥	7,000	

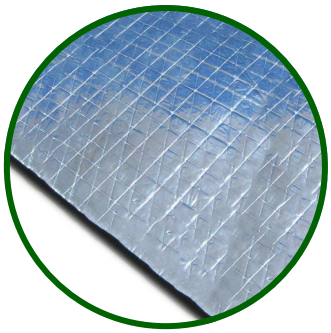
CEILING DIFFUSER

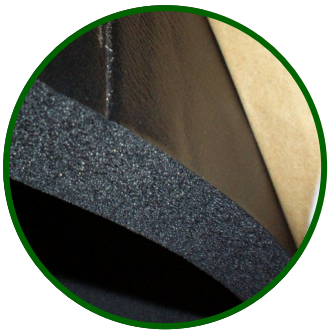


AVAILABLE SIZE OF CEILING DIFFUSER

SIZE (mm)	
150mm x 150mm	(6")
200mm x 200mm	(8")
250mm x 250mm	(10")
300mm x 300mm	(12")
350mm x 350mm	(14")
400mm x 400mm	(16")
450mm x 450mm	(18")
500mm x 500mm	(20")
550mm x 550mm	(22")
600mm x 600mm	(24")

RUBBER INSULATION WITH ALUMINUM FOIL AND ADHESIVE





AVAILABLE SIZE OF RUBBER INSULATION WITH ALUMINUM FOIL AND ADHESIVE

SIZE	1 x 4 mt	1.2 x 10 mt
3/4		*
1		*
1-1/2	*	
2	*	

ALSO AVAILABLE;

FM APPROVED

ALUMINUM FLEXIBLE DUCT

PRODUCT DATA

SUPAFLEX flexible duct is manufactured by laminating foil with polyester film, or one polyester film with one of metallised polyester film over a wire helix. Insulation versions are also available , fibreglass covered with an outer jacket of either aluminum foil or polyester. Configurations with perforations can also be made , ideal for reducing air noise in low pressure and domestic air conditioning systems. Specifically designed to provide effective and maintenance free life under normal conditions when properly installed. Easy to transport, use and install. Special Attention is drawn to the flexible duct making sure that the duct is fully extended and bends must be made with adequate radius to prevent corrugation with excessive resistance to airflow.

Duct Grades 13 APM-ALUMINUM, foil and polyester
C5M- ALUMINUM foil and polyester with flame retardant adhesive.
M1- Metallised and clear polyester with flame retardant adhesive
Acoustic perforations available in 13APM and C5M grades.
JACKET GRADES 13AP- ALUMINUM foil and polyester.
MIJ- Metallised and clear polyester with flame retardant adhesive

PROPERTIES AND ADVANTAGES

ALUMINUM LAMINATED BODY

- Fire Resistant
- 100% Non-Flammable
- Impermeable to UV Rays
- Highly Resistant to UV Rays
- Resistant to Chemicals
- Maintenance Free

ALUMINUM LAMINATED OUTER JACKET

- Certified Fire Resistant
- High Resistance to Wear and Tear
- Resistant to Chemical
- Maintenance Free

GLASS WOOL INSULATION

- Certified Heat Resistant
- Minimal Energy Loss
- Non-Condensation

SMOOTH INNER SURFACE

- Minimal Pressure Loss
- Low Operational Cost
- Anti-static / Dust Proof Interior

ALUMINUM FLEXIBLE AIRDUCT

Construction: ALUMINUM corrugated with continuous spiral lock seam joint.
Features: Lightweight, bendable, non-combustible
Standard Length: 3 meters, 6 meters, 10 meters, other length available upon request.
Diameter Range: 100mm-250mm (by increments of 25mm)
300mm-500mm (increments of 50mm)
Temperature: 0°C – 300°C
Colour: Silver
Applications: For high and low pressure ventilations systems.

INSULATED ALUMINUM FLEXIBLE AIRDUCT

Construction: ALUMINUM duct plain wrapped with insulation and outer jacket of metal-lised and clear polyester reinforced by fibreglass filament.
Insulation: 25mm thick x 16kg, 24kg, 32kg fibreglass blanket 50mm x 16kg, 24kg, 32kg, also available
Features: Lightweight. Available with a perforated internal surface (acoustic)
Standard Length: 3 meters, 6 meters, 10 meters, other length available upon request.
Diameter Range: 100mm-250mm (by increments of 25mm)
300mm-500mm (by increments of 50mm)
Temperature: 0°C-300°C
Colour: Silver
Applications: For high and low pressure ventilation systems.

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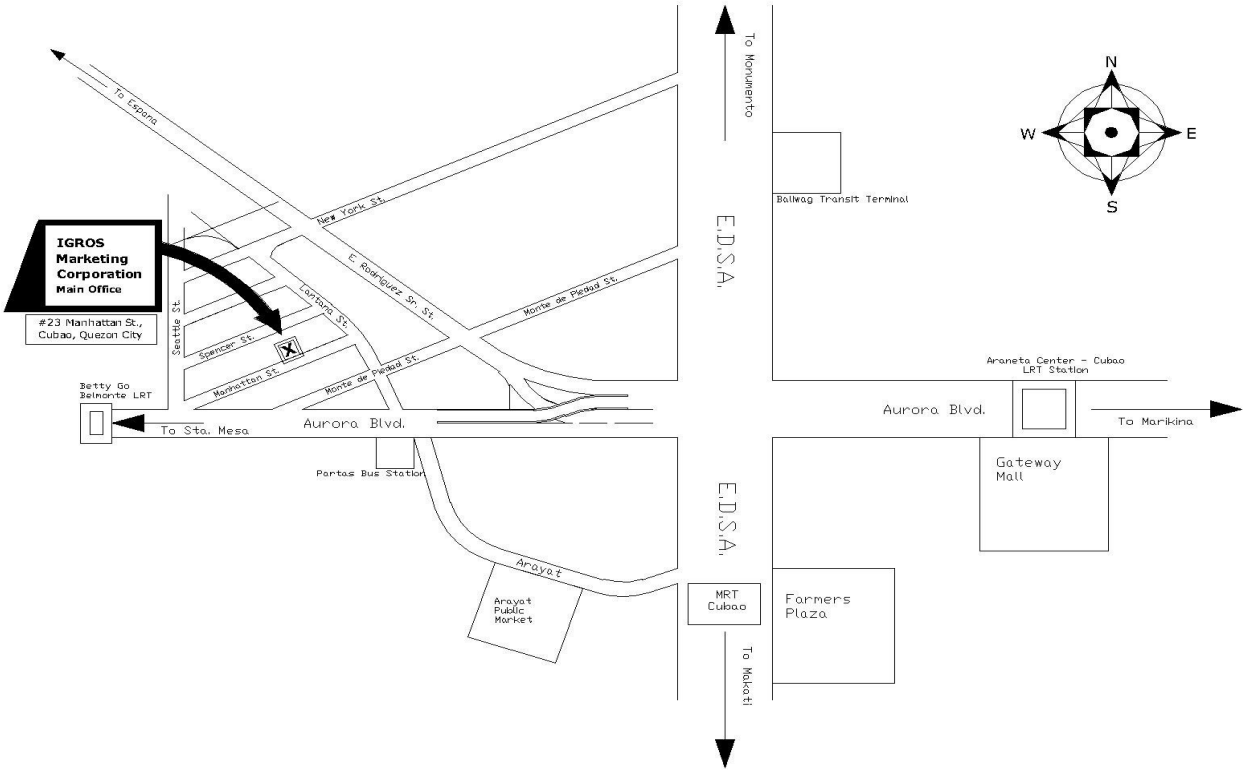

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