



MEMBCO



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Middle East Modified Bitumen Company
الشرق الأوسط للبتومين المعدل

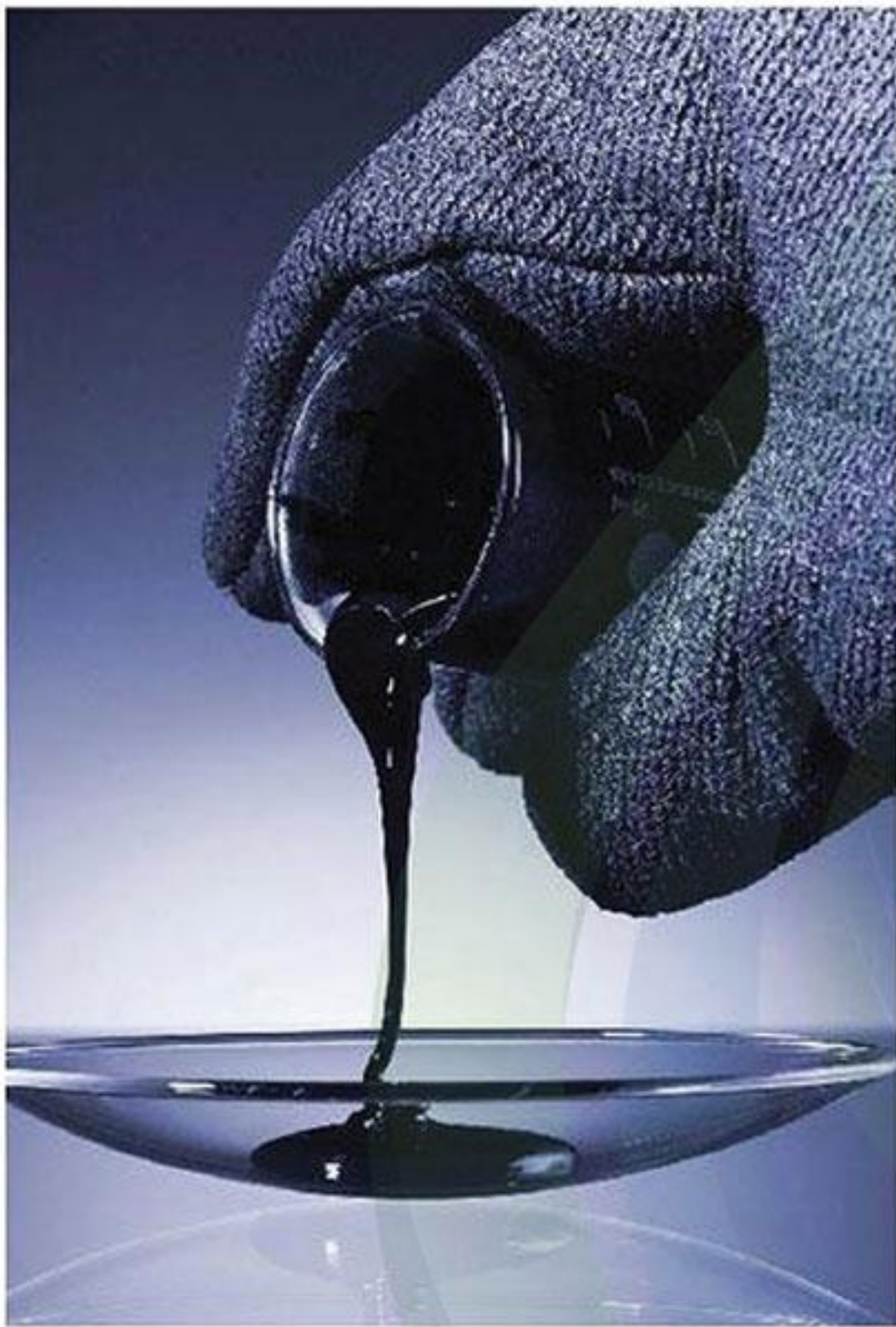
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ABOUT US

Middle East Modified Bitumen Company (MEMBCO) supplying bitumen 60/70 and producing products that meet the customer requirements as PMB (Polymer Modified Bitumen) in all types of grades like (PG76S-10, PG76H-10, PG76V-10, PG76E-10) and Emulsion (CSS1H) and CRUMB RUBBER MODIFIED BITUMEN (CRMB) related products. This range of products is backed by ongoing research and development. These Complimentary activities are aimed at assisting road authorities and consulting engineers in building roads of the highest quality. We recognize that a road network is a nation's most strategic asset. Our highly qualified staff, applying experience gained in the industry, back Membco mission to provide it's customers with products manufactured to the highest standards enabling them to build roads for the future.

Middle East Modified Bitumen Company (MEMBCO) undertakes the responsibility of ensuring our clients in Qatar and the middle east to receive product of the highest standard in the industry, the entire process of procurement and supply. Our factory ability to produce PMB (Polymer Modified Bitumen) between 15,000 MT to 20,000 MT per month with minimum of 500 MT per day capacity and Emulsion (C_{ss}1h) between 6,000 MT per month, with minimum of 200 MT per day.



We are leading manufacturer and supplier of Modified Bitumen catering to Road sector.

Middle East Modified Bitumen Company (MEMBCO) Polymer Modified Bitumen is designed to maximize resistance to permanent deformation and reduce fatigue of asphalt mixtures that are used in the most demanding locations.

Pavements based on MEMBCO Modified Bitumen have been shown to have a longer life with a better resistance to rutting, cracking, stripping, ageing, thermal cracking and Our product range is particularly suited to heavy traffic locations such as highways, main roads, airfields, roundabouts and bus lanes. Typically we've developed products for a combination of the following needs:

Superior Elastic modulus of MEMBCO PMB helps control deformation under high pavement temperature and heavy loading conditions:

- Increases the fatigue life of pavement under repeated heavy loading conditions.
- Helps in reduction of maintenance cost and is more cost effective on a life cycle cost basis.
- For use in thin surfacing and stone mastic asphalt (SMA) mixes;
- For asphalt mixtures designed for high resistance to permanent deformation and high flexibility

We have "State of the Art" manufacturing facility spread in Qatar and have depots to cater the needs of our customers. Our resources in the form of our Technologically Advanced Manufacturing Plants and our R & D Center at Qatar, Helps in producing excellent quality products and also achieving enhanced product performance. Our R&D facility is equipped with sophisticated, "State of the Art" equipment to ensure strict Quality control.

- Penetrometer (ASTM D5)
- Dynamic Shear Rheometer (ASTM D7175)
- Softening Point Apparatus (ASTM D36)
- Rolling Thin Film Oven Test (ASTM D2872)
- Rotational Viscometer (ASTM D4402)
- Sieve Test (PWA100)
- Pressure Aging Vessel (ASTM D6521)
- Bending Beam Rheometer (ASTM D6648)
- Flash Point (ASTM D95)



Vision

Customer satisfaction and compliance with environmental requirements are the core basis of our company.

Mission

To be engaged in the importation, distribution and retailing of petroleum products including, Bitumen, PMB (Polymer Modified Bitumen) , Emulsion products. To be delivered technological and scientific based solutions in the Bitumen Industry to Create Value for customer satisfaction.



MEMBCO





Our Business & Services

Our customers should always feel that our products as well as our commitment correspond to their needs and expectations. This is achieved through quality driven team work where each single activity in combination with all other activities in our organization result in satisfied and returning customers.

ADVANTAGES OF USING OUR POLYMER MODIFIED BITUMEN (PMB)

- Higher Resistance to Deformation at High Temperature
- Enhanced Deformation Resistance to Low Temperature Cracking
- Improve Temperature Susceptibility
- Improved Aging Resistance
- Improved Adhesion between Aggregate and Binder
- Higher Fatigue Life of Mixes
- Delay in Thermal / Reflective Cracking
- Over all Extended Pavement Surface Life
- Savings in Total Road Life Coasting.
- Improved Binder Film Thickness
- Improved Cohesion
- Improved Workability
- Improved Fuel Resistance
- Improved Water Resistance
- Not detrimental to basic properties of Bitumen and Enhances them.



Bitumen 60/70

Origin	Bahrain Bapco	
Colour	Black	
Property	Method of Test	Specified Value
Penetration at 25°C 100g for 5 seconds	ASTM D5	60-70 Max
Ductility at 25°C, (77°F) 5cm.per min.cm	ASTM D 113	100 Min
Softening Point °C	ASTM D36	49-56 Max
Loss of heating, %	ASTM D6	0.2 Max
Retained penetration at 25°C 100g for 5 second as % of original	ASTMD5	54 Min
Flash Point (°C)	ASTMD92	250 Min
Solubility in Trichloroethylene, Mass%	ASTMD2042	99.0Min
Specific Gravity @25 °C	ASTM D70	1.01 0.05
Ductility of residue at 25% °C, (77 °F) %cm.per min.cm	ASTM D113-99	50 <u>Min</u>
Drop in penetration after heating %	ASTM D5	20 Max
Spot test	A.A.S.H.T.O.102	Negative
Foam on heating at 175°C	ASTM D92C	Nil
Water by distillation, vol%	ASTM D 95	Nil



CSS-1h (CATIONIC SLOW SETTING EMULSION CSS1-h COMPLIES TO ASTM D 2397)

Origin	Qatar
Color	Brown Liquid

Uses	Storage
Slurry seal, cold plant mix, road-mix fog seal tack coat Compacted marl, stabilization. Protective coating for timber, steel and concrete preparation application, and coverage should be as per the intended use and site conditions.	One year in closed container under moderate temperature 10-50c.

Packing	Health and Safety Instructions
Available in 20 Ltrs. Pails 200 Ltrs. Drums, Bulk supply in tankers. Origin	Emulsion CSS-1h is safe, non-flammable non-toxic and presents no health. in case of contact with eye irrigate with clean water.

Property	Specifications		Test Method AASHTO
	Min	Max	
Say bolt viscosity @ 25c sec	20	100	T59, T72
Sieve Test		0.1	T59
Particle Charge Test	Positive		T59
Distillation Test			
REsidue by Distillation % by weight	57	---	T59
Oil Distillate % by volume	---	3	
Test on residue from distillation			
Presentation 25 c, 100 g, 5 sec	100	250	T51, T49
Ductilty 25c, 5 cm/min, cm	40	---	

Polymer Modified Bitumen (PMB)

Origin

Qatar

Description

Polymer Modified Bitumen (PMB) meets the requirements in accordance with ASTM D6373 and AASHATO M320 specifications designed for pavement applications.

Uses

The polymer dosages and mix designs of the binder are selected, to ensure optimum performance to the climatic and traffic conditions that, prevail on a particular project. Extensive research has shown that, the use of performance asphalts using polymer modified bitumen binders significantly increases stability, strength, anti rutting properties and longer life-span, as demanded by the industry to meet today's and tomorrow's traffic conditions.

Application

Polymer Modified Bitumen can be used in asphalt mix designs which results in the manufacture of cohesive asphalt mix with good elasticity suitable for type of traffic. Special attention to be taken to the temperatures while manufacturing, lying and compaction are performed.

Storage

Heating and holding procedures must be followed at all time, storage of PMB PG76.

Packing

Supply by taken only.

Item	Property	Test Method	Criteria			
			PG76S-10	PG76H-10	PG76V-10	PG-76E-10
1	Flash Point, min, °C	ASTM D92	230	230	230	230
2	Viscosity @ 135°C, max, Pa.s	ASTM D4402	3.00	3.00	3.00	3.00
3	Dianamic Shear, G*/sino @ 76OC and 10 rad/s min, kPa	ASTM D7175	1.00	1.00	1.00	1.00
4	Seperation test : Absalute difference between G* @76°C and 10rad/s of Top and Bottom Specimens, Max, % ^(h)	ASTM D7173	20	20	20	20
5	Time Stebility : Average of G* values measured in Seperation test (Item 6) divided by the initial G* value measured in (item 5), range ^(l)		0.8-1.2	0.8-1.2	0.8-1.2	0.8-1.2
6	Particular Retained on Sieve Test, % ^(j)	PWA 100	0	0	0	0
7	Solubility, Min, %	ASTM D5546	99	99	99	99
8	Polymer Contest, min % by mass ^(k)	Supplier Certificate Required	2	2.0	3.0	3.0

ROLLING THIN FILM OVEN (RTFO) RESIDUE

9	Mass Change, Max, %	ASTM D2872	1.00	1.00	1.00	1.00
10	Dynamic Shear, G*/sino @ 76°C and 10 rad/s min,kPa	ASTM D7175	2.20	2.20	2.20	2.20
11	MSCR,J _{nr} 3.2@76 °C,Max, kpa ¹⁻	ASTM D7405	4.5	2.00	1.00	0.50
12	MSCR, Recovery R _{3.2} @ 76°C and 3.2 kpa,% ^(l)		Report	Report	Report	Report
13	MSCR,J _{nr diff} @ °76C,% ⁽ⁿ⁾		Report	Report	Report	Report

PRESSURIZED AGING VESSEL (PAV) RESIDUE

14	PAV Aging Temp.,°C	ASTM D6521	110	110	110	110
15	Dynamic Shear, G*xsino @ 37°C and 10 rad/s max.kPa	ASTM D7175	5000	6000	6000	6000
16	Bending Beam, S @ °0C and 60s, max Mpa	ASTM D6648	300	300	300	300
17	Bending Beam,m-value @ °0C and 60s,min	ASTM D6648	0.300	0.300	0.300	0.300
18	Direct Tension, Failure Strain @ °0C	ASTM D6723	1.0	1.0	1.0	1.0



Quality Assurance / Quality Control

The polymer modified bitumen Quality Program is a comprehensive program designed to verify access, and track the quality of polymer bitumen delivered to projects and maintenance operations. It is also used as a means for qualifying Producers to provide polymer modified bitumen in this capacity.

Our Laboratory has been equipped with the most advanced Quality testing Machines to ensure the Highest quality of Bitumen Products based on the ASTM & ASSHTO International Standards. Various quality control tests in different steps of the production process, including on the raw materials. during product manufacturing and finally on the finished products are performed to control the quality and specifications of the Polymer Modified Bitumen Products in the company.

Various Bitumen tests in the lab are carried out under certain conditions which are strictly controlled and standardized. The complete test instructions are described in the related technical regulations such as AASHTO & ASTM regulations.

These regulations should be strictly observed in the manufacturing process so that the results could be reliable and useful. in order to carry out the tests in different steps of quality control lab is essential.

All lab equipment's in the Middle East Modified Bitumen Company (MEMBCO) for testing bitumen is in accordance with American standard (ASTM) & ASSHTO and consist of equipment's and instruments for testing penetration rate, softening point, flash point, viscosity, PAV, DSR, BBR, and all of which are located in laboratory





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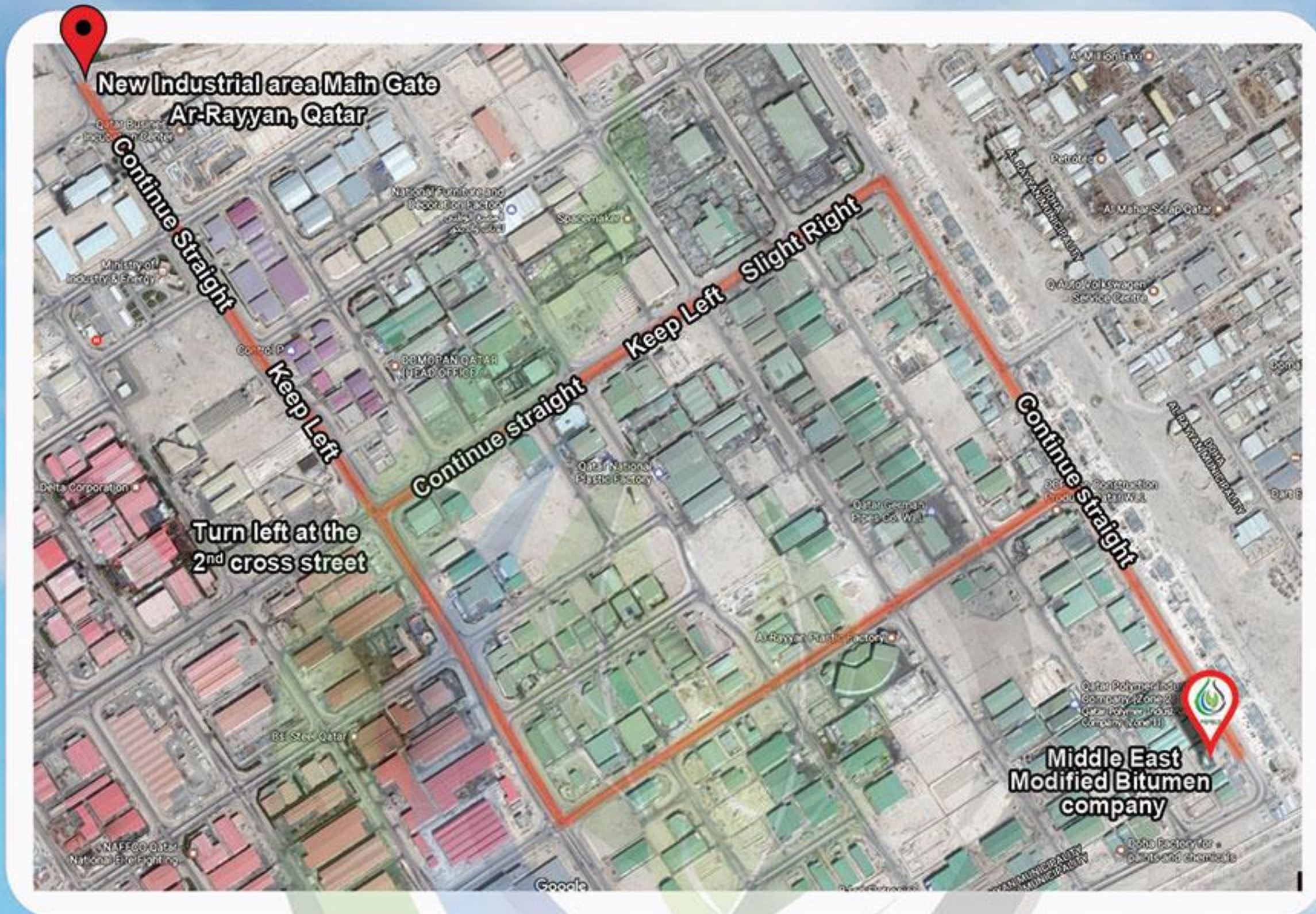
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