GLASS REINFORCED GYPSUM

GRG (Glass Fiber Reinforced Gypsum) is a molded product with strength to weight ratio similar to the traditional plaster glass method. GRG, intrinsic nature being strong, light-weight and good dimensional stability, make it very suitable to achieve architecture and interior design imagination.

GRG uses only two basic raw materials, namely continuous strand fiberglass mats / chopped strand fiber in a matrix of high-density "Alpha" gypsum plaster. A gypsum surface coat is applied to mold (the negative of the shape required) and further alternating layers of fiber-glass and gypsum are hand laminated control of the shell thickness , typically in a nominal thickness of 6-8mm. The hand "lay-up" method allows consistent attachment and / or hang-ing. Once the "GRG" has set the part will maintain its shape. It is then to be removed from the mold and stored to prevent distortion, finished and inspected prior to deliver to the site for installation.

GRG is non-toxin and incombustible with class "O" fire rating; make it a widely used decorative material anywhere in the construction industry.

GRG molds is an appropriate material for an intended use. Its shape enhances and provides it strength; repetition of the similar molds will allow the custom mold cost more economically, amortizing the fixed initial investment cost over the greater number of pieces. The mold can be make from either plaster, resin, or rubber mold depending on the number pieces.

INSTALLATION AND FINISHING METHOD

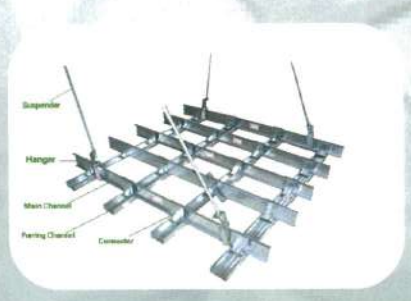
Installation and finishing techniques are similar to those required for the drywall construction. All details are simple and efficient with attachment and hanging points shown on the specific shop drawings.

1. Typical drywall fasteners are countersunk into the piece to light gauge framing or blocking. Parts are adhered together with construction adhesive.

2. After securing the GRG into the metal furring, grouting (a mixture of fiber-strands with the plaster compound and water in the ratio of 1:2) is then wrapped around the metal furring at random interval. Ensure the grout is joined at top of metal furring to form a continuous grout with minimum overlap of 75mm.

3. Monolithic (seamless) appearances are achieved by applying the gypsum plaster stopping compound across all joins.

4. GRG is field primed and painted with any commercial quality coating suitable for plaster surfaces. High gross coating are not recommended but may be acceptable if all parties, are aware of the extra finishing efforts (multiple primer, sanding, skim coating) required. Proper priming of GRG and join compound surfaces is extremely important to minimize the differences in porosity between the two materials and eliminate the chances of seam read through.



HANDLING AND STORAGE

Although GRG is strong, it is gypsum based product and it may subject to damage because of poor handling and storage. Store GRG on flanged and support on the wall, upright in a controlled environment, weather protected, and on a level surface. All parts are NOT TO BE STACK ON TOP OF EACH OTHER AND DO NOT LEAN AT AN ANGLE OR LAY FLAT. Parts that stored improperly may warp or twist.

PHYSICAL CHARACTERISTICS:

Shell thickness	:	6 mm – 12 mm nominal thickness
Glass Fibre	:	6% min. (by weight to plaster)
Weight	:	10 – 15 kg /m2
Strength	:	Tensile: 1800 – 2000 (psi) (22 -24 (MP a))
		Compressive strength: 7200 - 8300 (PSI)
Flame Spread	:	Class O (zero flame spread)
Density	:	(Dry) 105 -114 pcf (1680 -1826 kg/m3)
Hardness	:	95 RH (Min)
Tolerances	:	Fabrication: Dimensional all direction +/- 3 mm
		Installed : Humidified Deflection: 3 mm

GLASS REINFORCED GYPSUM POWDER

TECHNICAL DATA SHEET

FRG95 Gypsum Powder is high strength shock-resistance Plaster used with fiberglass for the fabrication of Glass Reinforced Gypsum Products:

- Cornices,Ceiling Panels,Arches,Coves
- Column covers and Sculptures

Its fineness and consistency make a very strong,smooth surface and lighter finished products.

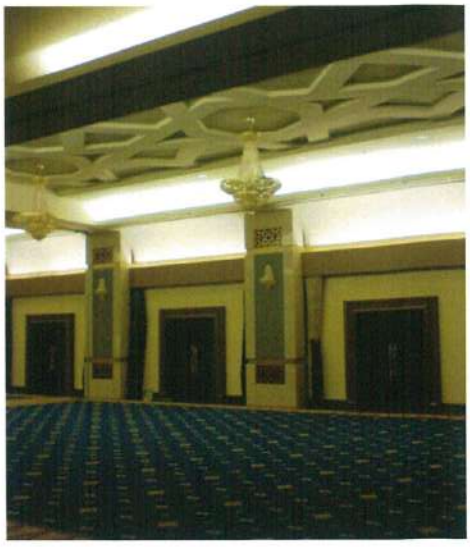
PHYSICAL PROPERTIES

Matrix	**FGR95 Gypsum Powder**
Set Time	90-120min
	50-70min
Consistency	25-30 cc
Flexural Strength	3200-4000 psi
Modulus of Elasticity in Flexure	2.1-2.2 x 10^6psi
Ultimate Tensile Strength	1200-1400 psi
Modulus of Elasticity in Tension	2.7-3.8 x 10^6psi
Impact Strength	8.0-8.8 ft.lb./*in.*$^+$
Thermal Conductivity	4.0-4.2 Btu x in./hr.x ft.^{2}°F
Specific	0.253 Btu/lb.°F
Flammability	Zero flame spread.Zero smoke contribution (Per ASTM 136-94A)
Rockwell hardness	M72
Dielectric Strength	Same as air when dry:conductive when wet
Density	103-112 lb./ft.^{3}
Thermal Coefficient of Expansion	8.3 x 10^{-6}in./in./°F

ISTANA (PALACE) ANAK BUKIT, KEDAH D.A

DEWAN PENGHADAPAN @ ISTANA ANAK BUKIT

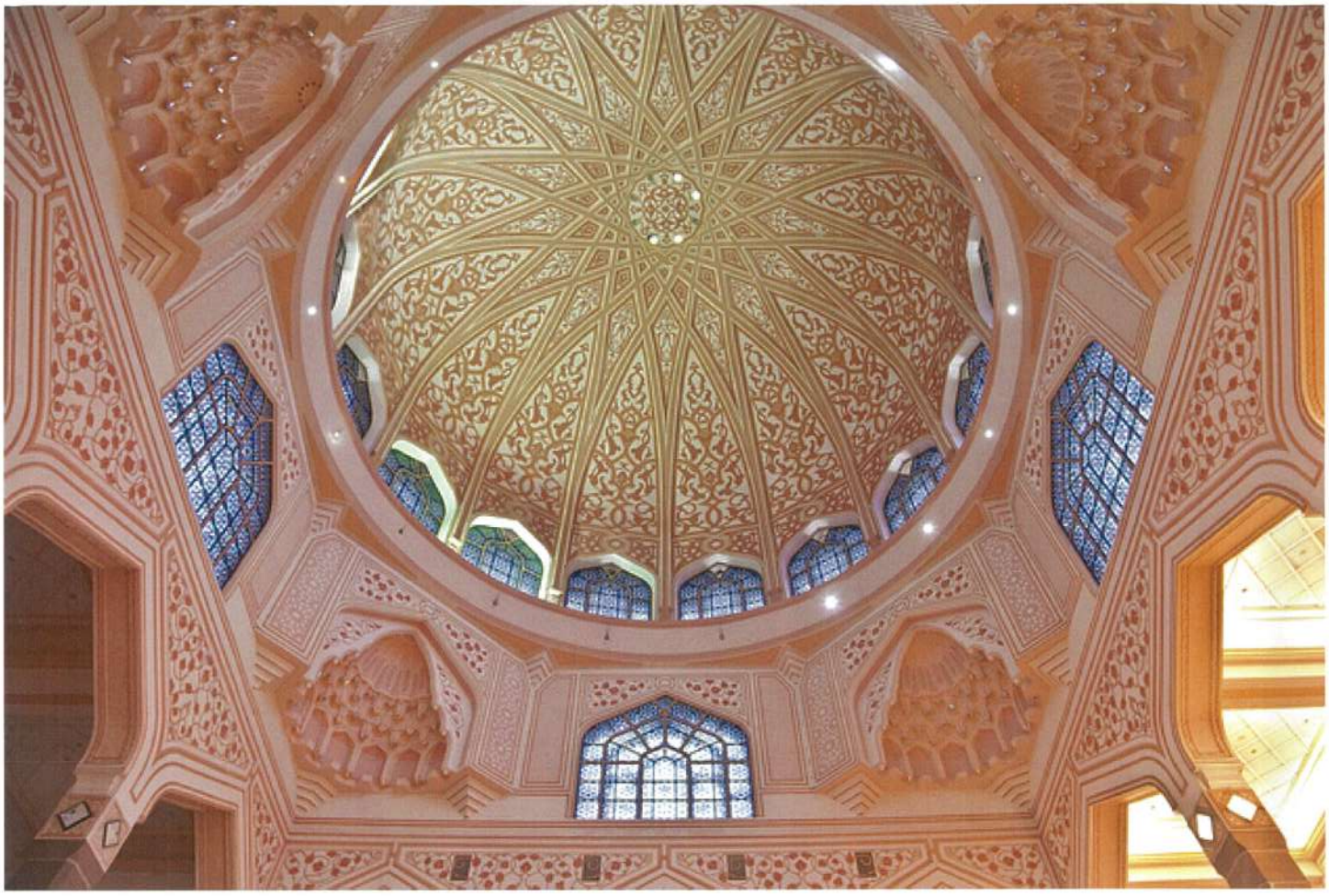
ROYAL BANQUENT (DEWAN SANTAPAN)



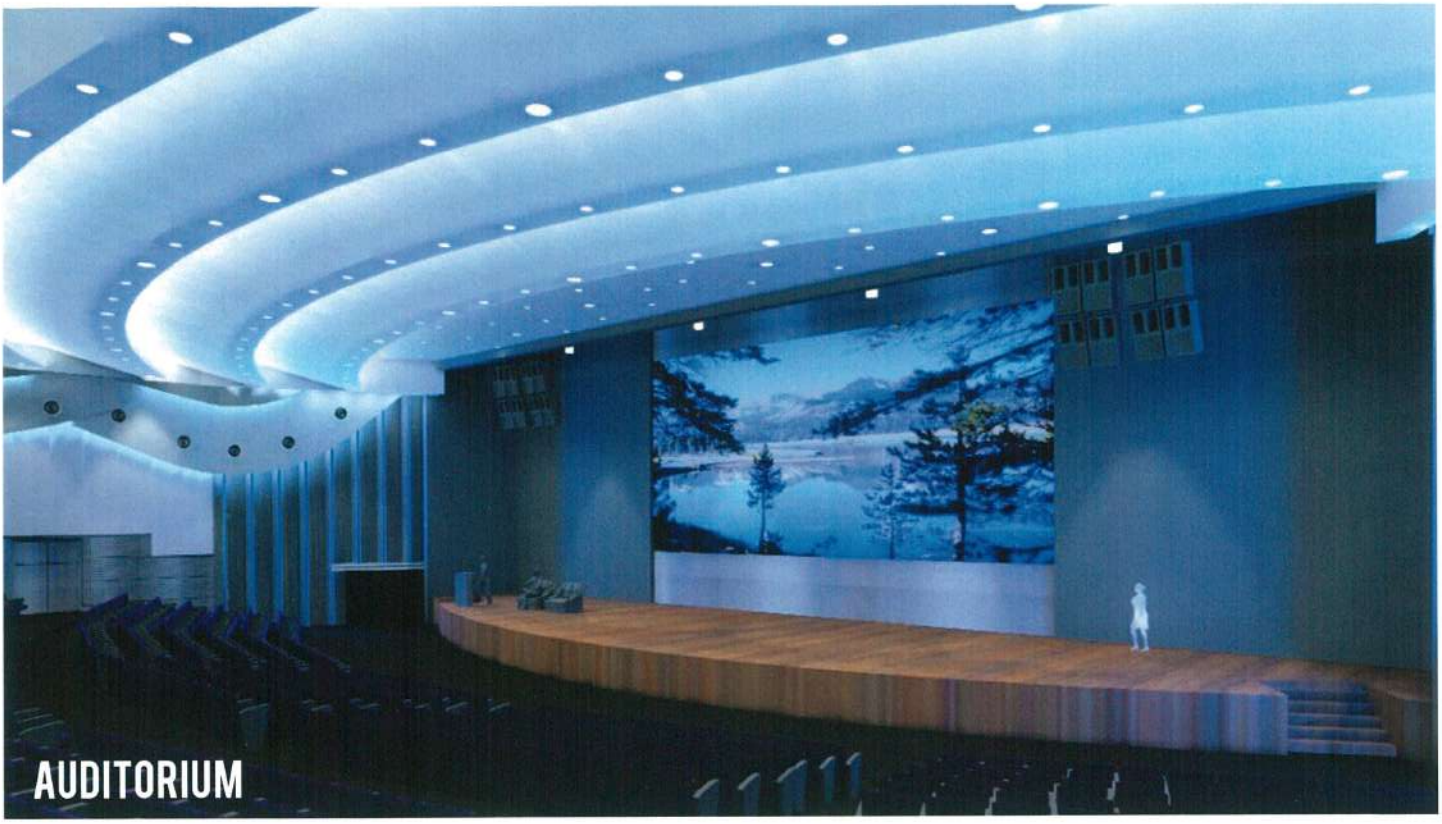
ISTANA NEGARA (NATIONAL PALACE, MALAYSIA)

DEWAN UTAMA @ ISTANA NEGARA (MAIN LOBBY @ NATIONAL PALACE)

MASJID PUTRA (PUTRA MOSQUE)

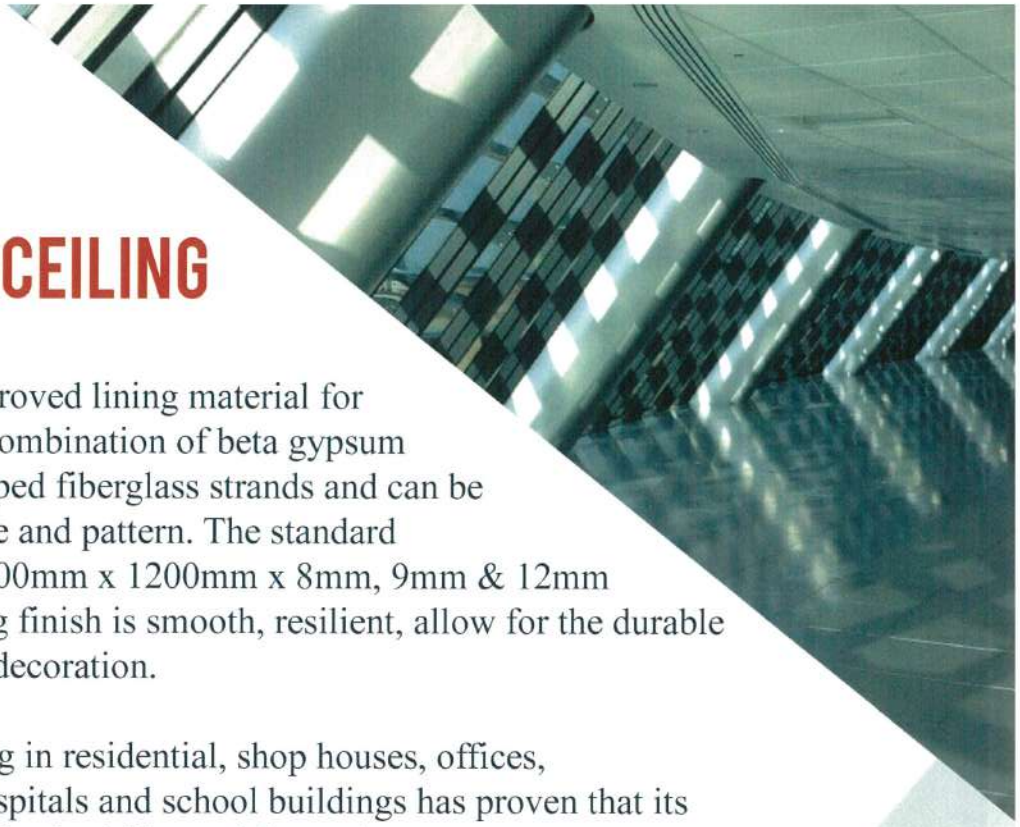


CENTER DOME @ PUTRA MOSQUE



AUDITORIUM

PANGGUNG TEATER, DBKL



PLASTERGLASS CEILING

Plasterglass ceiling is an improved lining material for the ceilings. It consists of a combination of beta gypsum plaster, reinforced with chopped fiberglass strands and can be woulded into any form, shape and pattern. The standard manufacture board size is 1800mm x 1200mm x 8mm, 9mm & 12mm thick. The plasterglass ceiling finish is smooth, resilient, allow for the durable surface ideal for all types of decoration.

The use of plasterglass ceiling in residential, shop houses, offices, shopping malls, factories, hospitals and school buildings has proven that its qualities in term of its strength, durability and fire resistance.

The early fire hazard test result of Plasterglass ceiling has been tabulated as below	
Nominal size and thickness	1800mm x 1200mm x 8-12mm thick
Fire Performance	Class O
Weight	9 kg/ m2
Ignitability	0
Spread of Flame	0
Smoke Developed	0
Heat Evolved	0

MOISTURE RESISTANCE PLASTERGLASS BOARD

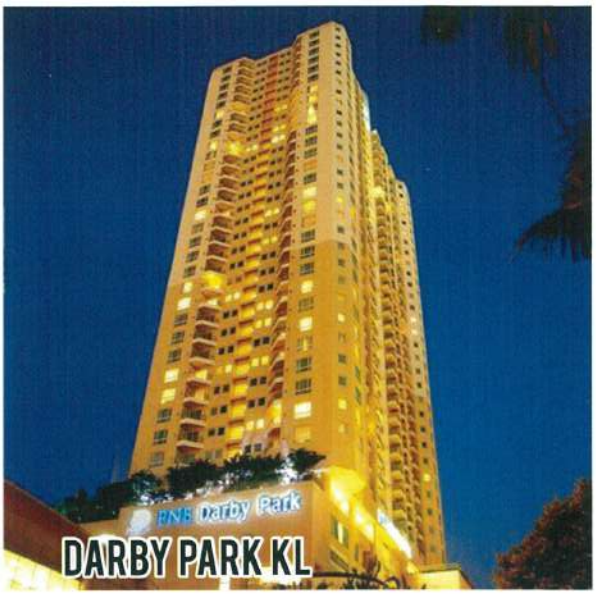
Moisture Resistance Plasterglass Ceiling Board is a type of ceiling material that recommended to be used in wet area such as bathrooms, kitchen and to poorly ventilated areas such as roof eaves, porch and terrace.

Moisture Resistance Plasterglass Ceiling Board consists of a combination of beta gypsum plaster reinforced with chopped fiberglass strands and water. During the manufacturing stage, additional silicon polymer is added into mixture of beta plaster, chopped fiberglass strands and water.

This silicon polymer will encapsulate the crystallization of the gypsum plaster thereby repelling moisture. It is noted that with the addition of the silicon polymer in the manufacturing process, 90% of the environment moisture are repelled.

INTERNATIONAL HOTEL PROJECTS

HILTON COLOMBO @ SRI LANKA



DARBY PARK KL

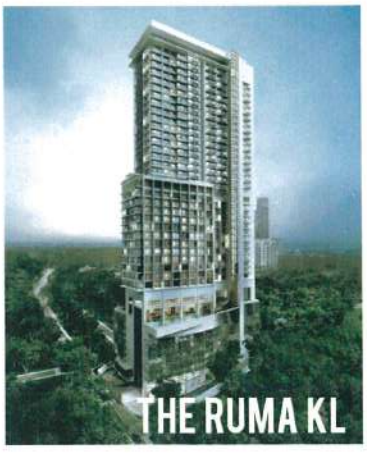

FOUR POINTS SANDAKAN

HOTEL UZBEKISTAN


HILTON KUALA LUMPUR

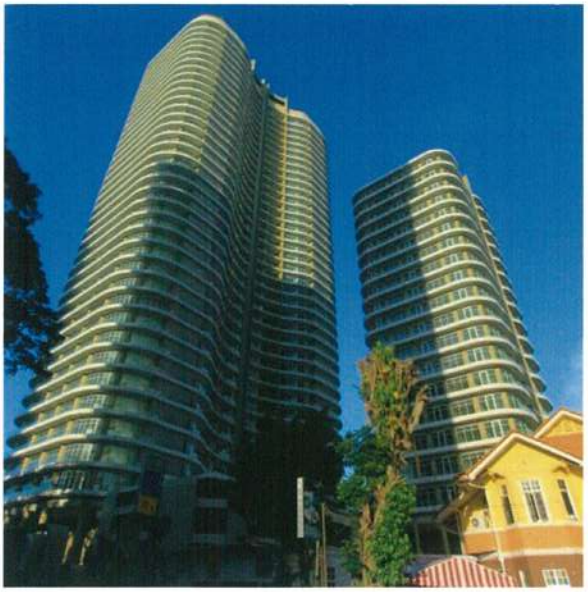
SEDONA HOTEL MANDALAY

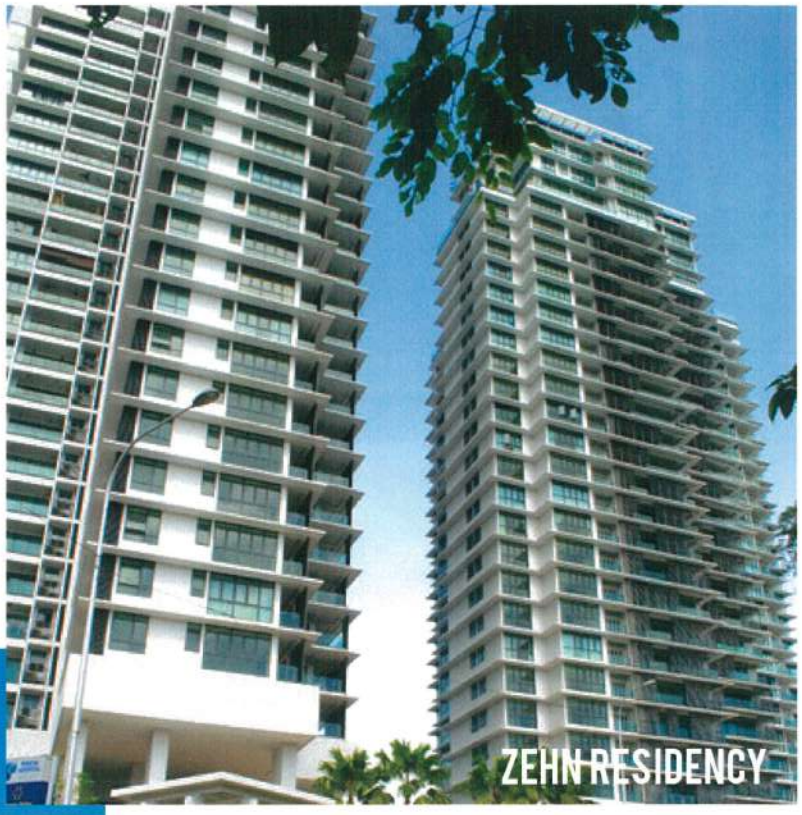

YANGON AIRPORT HOTEL

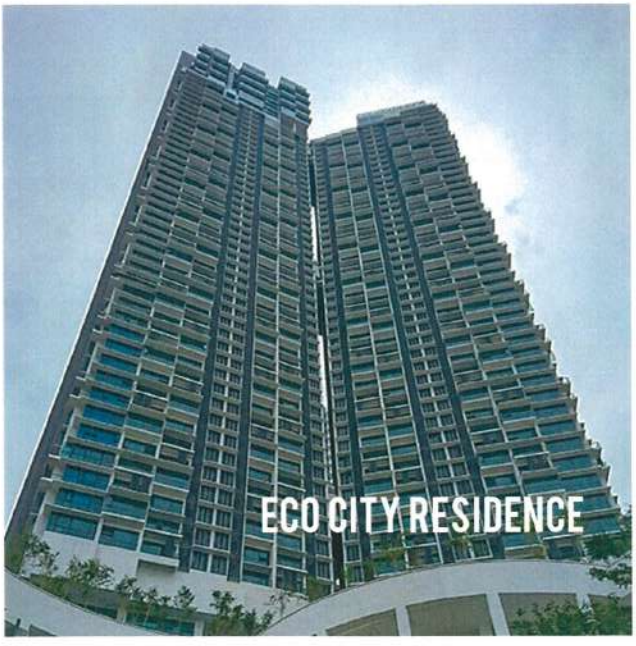

THE RUMA KL

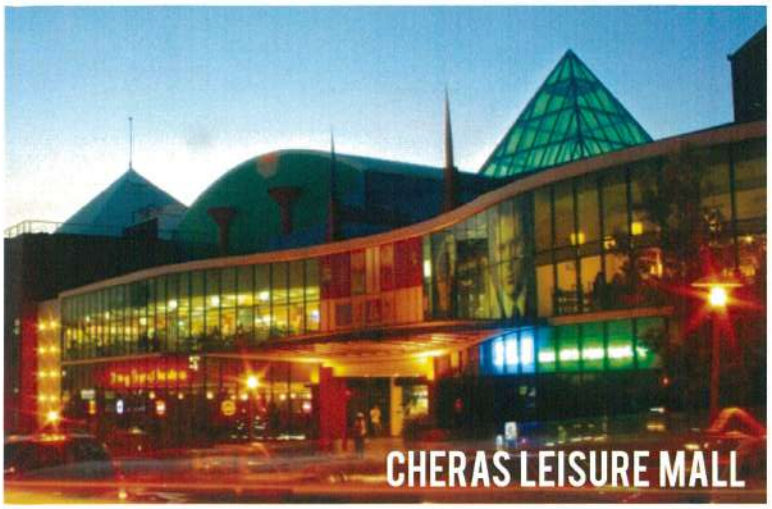

HATTAN HOTEL

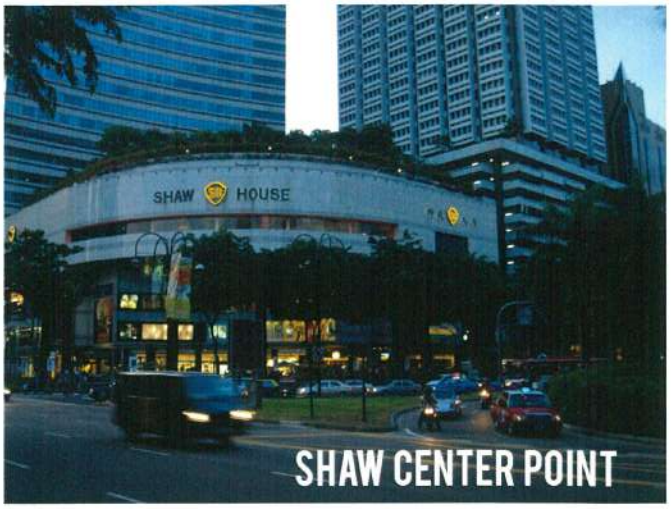
CONDOMINIUM PROJECTS








CHERAS LEISURE MALL



SHAW CENTER POINT

KLANG PARADE

MAHKOTA PARADE

1 UTAMA (PHASE ONE)


101 MALL

SHOPPING MALL PROJECTS