FIBRELUX®

FIBERGLASS DOOR

MMFG

BM TRADA CERTIFICATION
ISO 9001:2008
UKAS MANAGEMENT SYSTEMS 012
Cert. No.: 7882









FIBRELUX® FIBERGLASS DOOR

MMFG offers a comprehensive range and a variety of application of Fibrelux® fiberglass doors. Due to its high mechanical strength, thermal stability, non conductive property, corrosion resistance and durability to withstand extreme climatic condition and harsh environments, these doors are suitably used as alternative replacements to traditional wooden, aluminium and metal doors mainly installed in substation of power utility. Other areas of application in general include liquid and chemincal-based establishments such as wastewater treatment plant related industry where wet and corrosive elements present a threat to wooden and metal doors.

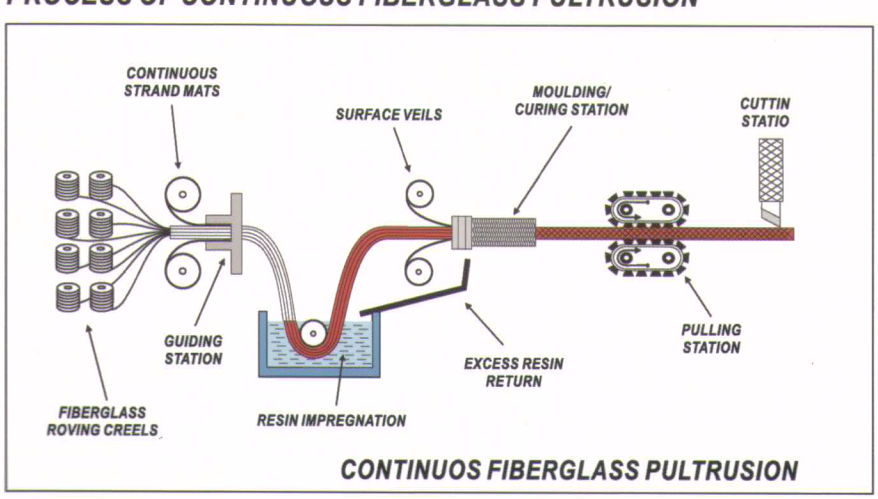
From the economic viewpoint, Fiberlux® doors are lightweight, less expensive as maintenance cost is practically zero. No painting is necessary as the finished surface is UV-protected. As a finished product, it has no resale value, hence "self-protected" against vandals.

MMFG fabricates a wide range of FRP doors tailored-made to suit client's requirements by a menhod known as dual combination process, i.e. pultrusion and contact molding. Depend on the configuration of the intended door, a combination of other associated profiles are included as and when required to lend calculated strength to the finished product. General types of Fibrelux® doors commonly in demand are:-

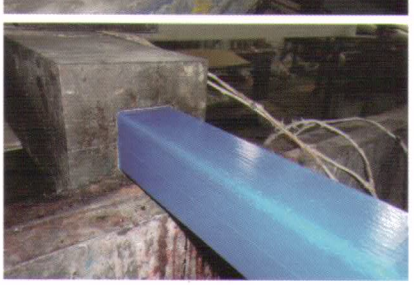
(a) Flush-type composite door
(b) Full-louvered composite door
(c) Half-louvered composite door

Louvers form a section of the door structure. It is produced by pultrusion where a formulation consisting of continuous rovings, layers of continuous strand mat and surfacing veil and 100% pure resin are passed and compacted inside a heated mould, then mechanically pulled at one end to the desired length. Pultrusion offers higher transverse and longitudinal mechanical strength and dimensional consistency throughout.

PROCESS OF CONTINUOUS FIBERGLASS PULTRUSION



CONTINUOS FIBERGLASS PULTRUSION



FIELD AND COMMERCIAL APPLICATIONS OF FIBRELUX® FIBERGLASS DOOR

Substation Door

Substation Window Panel

Substation Perimter Wall Paneling System

Aerobridge Composite Door

Feeder Pillar Door

Cabinet Door

Refuse Chamber Door

MMFG is an established leader in the manufacture of a wide range of Fibrelux® fiberglass doors and window panels mainly utilized in Tenage Nasional Berhad (TNB) substations as well as in commercial sectors namely wastewater treatment plant (Indah Water Konsortium), office and kitchen space, Rest and Recreation areas and liquid/chemical-related industry where deterioration to installations is more pronounced. The superior physical properties of the Fibrelux® fiberglass composite materilas as a finished product has been proven to withstand the test of time in all weather and environmental conditions and far exceeded the limitations of other door-making materials.

MMFG is also involved in conceptual design, build and installation works of specialized projects requested by Sarawak Energy Supply Co. Berhad (SESCO) for its substation perimeter wall paneling. Malaysia Airport Berhad (MAB) recently had its existing aerobridge roller shutter type doors replaced with Fibrelux® fiberglass door.

Fibrelux® fiberglass door in particular, have since been the chosen product as practical replacement to conventional ones and has gained end user's approval in all counts - lightweight, robust, durable, weather resistance, termit resistance, nil maintenance and theft-free.

Substation Main Entrance Gate - 4m (W) x 3m (H)

Design Criteria

All associated composite components used in fabrication of ***FIBRELUX***® fiberglass composite doors and window panels are tested and conformed to the following Test Standard:-

Item	Property Mechanical / Physical	Test Standard / Method
1.0	Modulus of Elasticity, Tensile Strength & Elongation at Break	ASTM D 638 - 01
2.0	Flexural Strength & Modulus	ASTM D 790 - 00
3.0	Chemical Resistance Test	ASTM D 543 - 01
4.0	Dielectric Strength	ASTM D 149 - 97a
5.0	Izod Impact Test	ASTM D 256 - 00
6.0	Exposure to UV Radiation	Co's specification Duration : 200 hrs
7.0	Compressive Strength	ASTM D 659 - 96
8.0	Water Absorption Test	ASTM D 570 - 98
9.0	Density Test	ASTM D 792 - 00
10.0	Coefficient of Linear Thermal Expansion	ASTM D 696 - 98
11.0	Salt Spray Test	ASTM D 117 - 02
12.0	Fire Test on Building Materials and Structures	BS 476 Part 7 : 1997

Technical Data

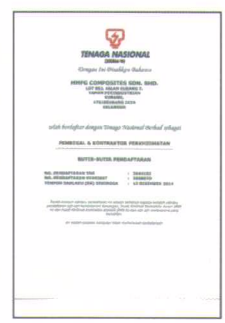
Product :	***FIBRELUX***® **Composite Door and Window Panel**
Process :	Combination of Pultrusion and Contact Molding method
Materials :	E-Glass Continuous Strand Mat, Direct Roving, Polyester Veil, E-Glass Chopped Strand Mat, Mixed Polyester Resin & Fire Retardant additives.
Standard Door Sizes :	2-1/2' (W) x 7' (H), 3' (W) x 7' (H), 8' (W) x 10' (H) and 5' (W) x 10' (H)
Standard Window Panel Sizes :	2'-0" (H) x 4' / 6' / 8' / 10' / 12' / 14' / 16' (L) Window Panel
Pultruded Profiles :	3.0mm thick x 5 1/2" pultruded louver 4.0mm thick x 32mm x 50mm or 4.0mm thick x 50mm x 50mm hollow.

Note : Non-standard sizes of doors / window panels can be made available upon request.

Certification

Stringent procedures are applied and processes monitored in compliance with ISO 9001:2008 practice to ensure that the quality of the product is not compromised.







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