

Feel Safe Feel Secure

Tested for Integrity & Stability



الحلول الميكانيكية والتقنية ش م م
MECHANICAL & TECHNICAL SOLUTIONS LLC



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Introduction



THE COMPANY

MECHANICAL & TECHNICAL SOLUTIONS L.L.C. **M&T** commenced its Architectural Metal Works operations in 2008, and has since been able to provide the best and most professional solutions to any new challenges, by fabricating quality products and systems conforming to the highest standards of industry practice and carving a niche for itself in a highly competitive industry.

M&T Steel Door is the first of its kind in the Sultanate of Oman. The Factory is equipped with most modern computerized machines capable to manufacture and supply wide range of high quality custom made fire rated and non fire rated steel doors and frames.

The production will cater to the needs of various education, health, defense, hospitality and government institutions, and to all industrial, commercial and residential projects.

M&T Steel Doors assure you of safety and security, as the doors and frames are:

1. Conforming to American and British Standards.
2. Certified by UL, Certifire, Intertek, Public Authority for Civil Defence and Ambulance (Sultanate of Oman), Civil Defence (Dubai, UAE), Civil Defence (State of Qatar), Civil Defence (Kingdom of Bahrain), Civil Defence (Iran), Petroleum Development Oman (PDO) and Ministry of Defence Oman (MOD).
3. Manufactured with advanced technology using most modern computerized machines.
4. The Plant is managed by well experienced team of managers, engineers and technicians.
5. The Company is an ISO 9001:2008 certified, assuring to provide best quality product supported by quality management system.



Our Products



- FIRE RATED STEEL DOORS
- ACOUSTIC STEEL DOORS
- NON FIRE RATED STEEL DOORS
- SLIDING DOORS
- ACCESS PANELS
- STEEL WINDOWS
- STEEL SCREENS
- SECURITY DOORS
- STAINLESS STEEL DOORS
- GRILL DOORS



Features & Benefits

Steel Doors

Local authorities, housing associations, national major house builders and regional developers have all chosen to combine the visual appeal of traditional panelled doors with the energy saving, easy care characteristics that make original steel doors such high performers. They meet the exacting standards of newly built homes and provide an aesthetically acceptable means of improving the thermal performance of entry systems in older properties.

Features & Benefits

- ✓ Original Steel doors are available in a wide choice of traditional, cottage and contemporary styles.
- ✓ Available primed for on-site painting or pre-finished in a choice of standard colours.
- ✓ Steel composite doors provide an effective alternative to solid timber doors but do not warp, bow or split.
- ✓ Excellent sound and thermal performance.
- ✓ Thermal insulation value up to four times that of a solid timber door.
- ✓ Environmentally friendly polyurethane insulating foam core.
- ✓ Durable construction with galvanised steel skins.
- ✓ Available in a range of standard sizes particularly suitable for new build applications.
- ✓ Available with a wide range of ironmongery and glazing options.
- ✓ Long lasting and low maintenance.



Door Designs



FF - Full Flush



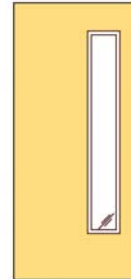
VS - Vision Square



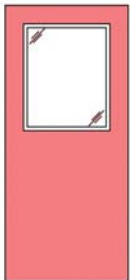
VR - Vision Round



VNS - Vision Narrow Short



VNL - Vision Narrow Long



HG - Half Glaze



FG - Full Glaze



BL - Bottom Louver



TL - Top Louver



FL - Full Louver



VNS/BL - Vision Narrow short with Bottom Louver



HG/BL - Half Glaze with Bottom Louver



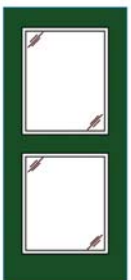
VS/BL - Vision square with Bottom Louver



VR/BL - Vision Round with Bottom Louver



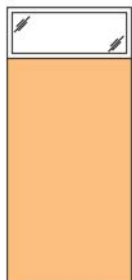
TBL - Top and Bottom Louver



TBG - Top and Bottom Glaze



FF/TP - Full Flush with Top Panel



FF/TG - Full Flush with Top glaze

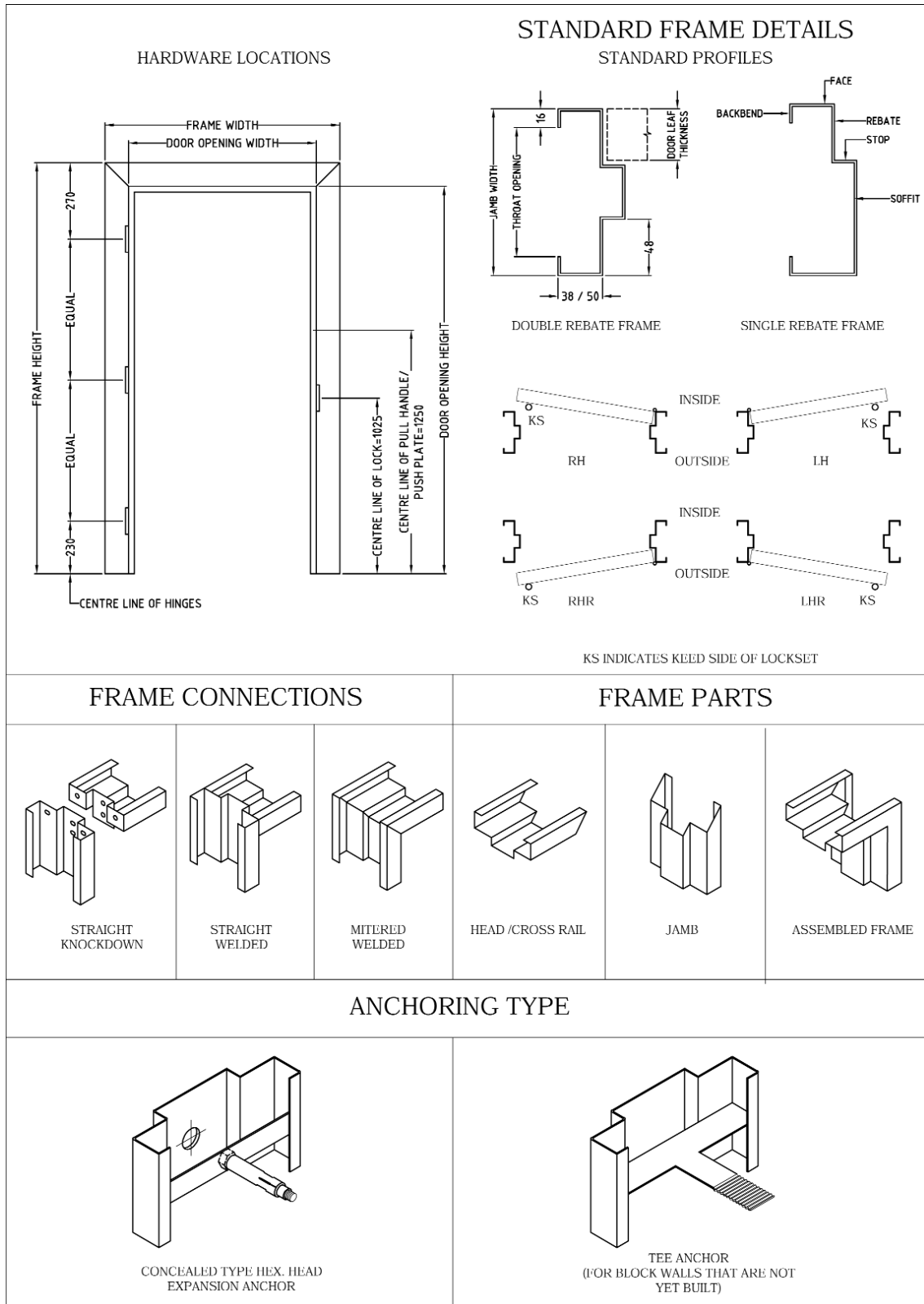


FF/TL - Full Flush with Top louver

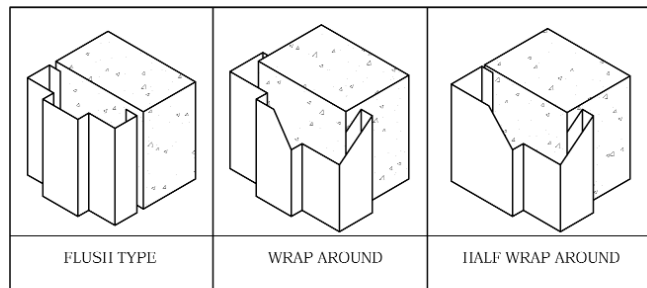
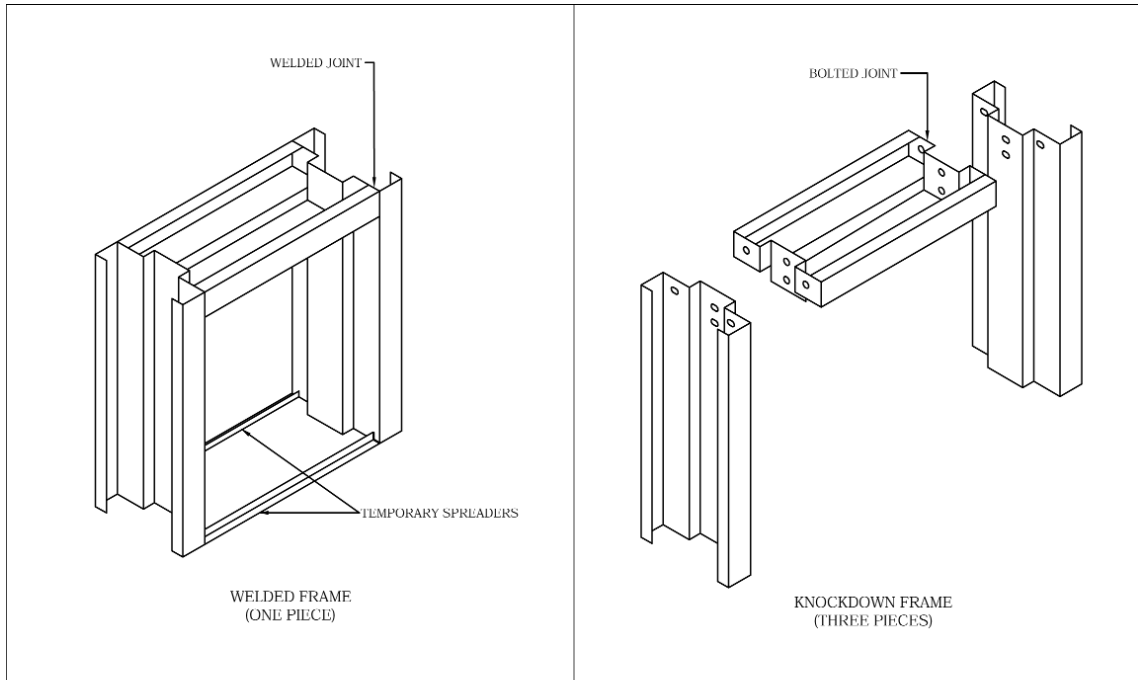


VS, BL/TG - Vision Square, Bottom Louver with Top glaze

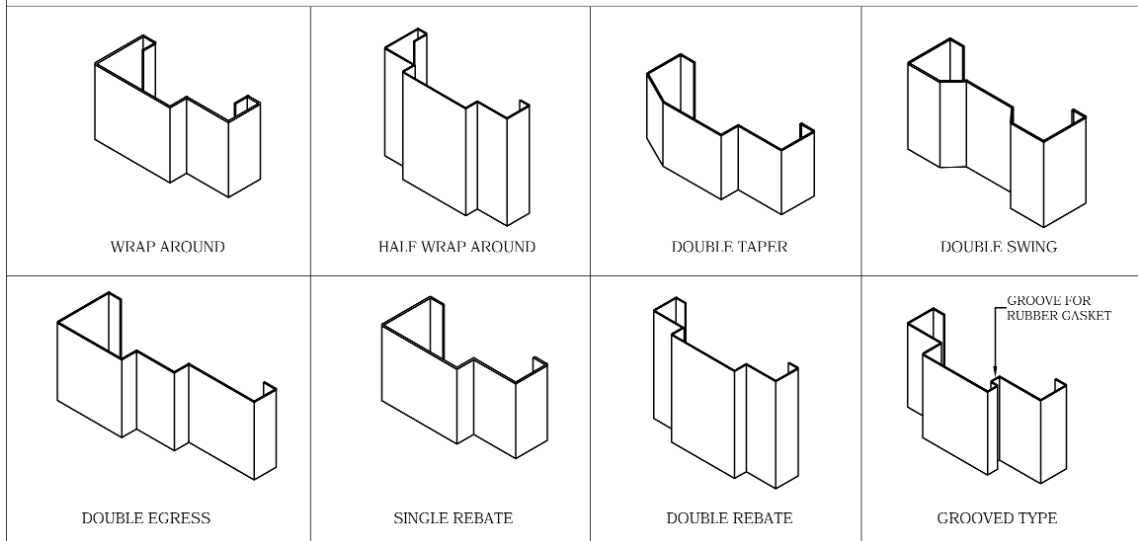
Frame Profile



Frame Profile



FRAME TYPES



Door Construction

Honey Comb Core:

Honeycomb core is made from layers of paper or cardboard bonded together by parallel and uniformly spaced lines of adhesive light weight and high strength. Glued to the interior surface of the door skin, door leaf is the pressed for a couple of hours to maintain the flatness of the door. Compressive strength is equal to 1.4kg/sq.cm.



Polystyrene core:

A rigid closed cell polystyrene in density range from 20 to 35 kg/cu.m. It has a stable thermal conductivity value that ensures insulation efficiency for long time. Commonly used for our non-fire rated doors.



Mineral Core:

Made from molten basalt rocks spun to fine fibers and bonded with thermosetting phenolic resin used for thermal insulation, acoustical and fire barrier. Provided with suitable vertical stiffeners.



Stainless Steel Doors & Frames

M&R[®] stainless steel doors and frames become a judicious choice when you need greater corrosion resistance or an aesthetical look.

TECHNICAL DETAILS

M&R[®] manufactures its doors from a #304 type stainless steel with a #4 finish for projects where stainless steel beauty and prestige are displayed prominently.

For projects that require durability, M&R[®] uses a #316 type stainless steel with a #4 finish which offers a higher resistance to corrosion.

Stainless steel products have a variety of applications where they present superior performance:

- Public pools
- Food processing factories
- Laboratories
- Chemical product warehouses
- Automatic car wash
- The frames are manufactured from 1.5mm stainless steel and can be set up and welded or knockdown;
- The doors are built from 1.2mm or 1.5mm stainless steel.
- The frames and doors are strengthened, mortised, drilled and threaded in order to receive the specified hardware;
- All the components required in this type of doors are manufactured from stainless steel.

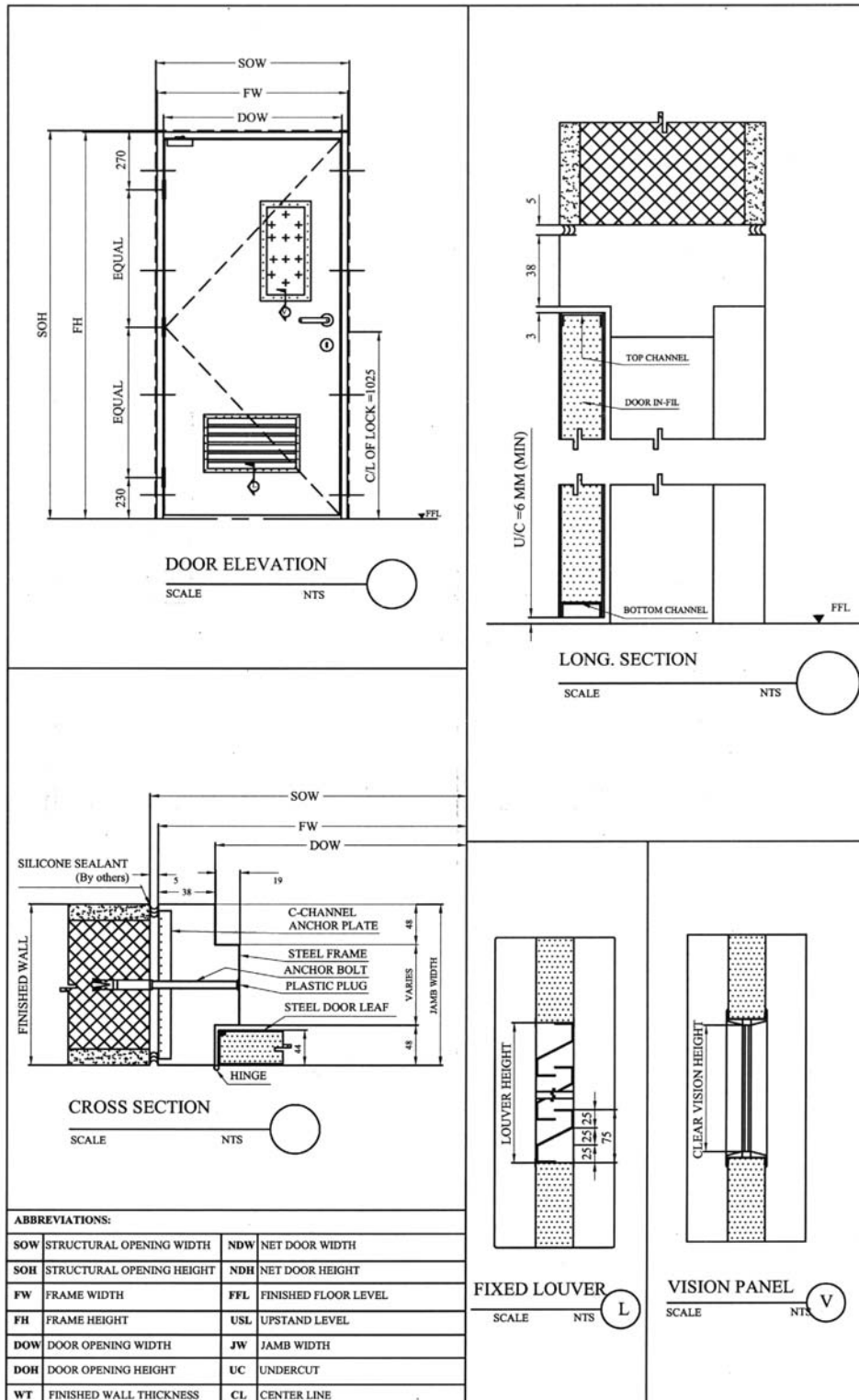
For all of the architectural projects, no doubt the stainless steel is a contemporary and durable choice.

The M&R[®] stainless steel doors and frames are chosen for their characteristics :

- Aesthetics;
- Excellent resistance to the corrosion and to chemicals;
- Heat and fire resistance;
- Easy maintenance.



Technical Specification





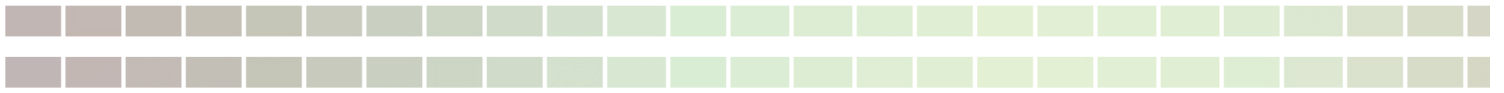
An Acknowledged Specialist

in the manufacturing of steel doors and frames

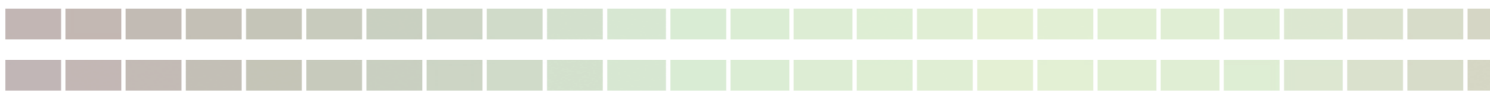


Prima
Power

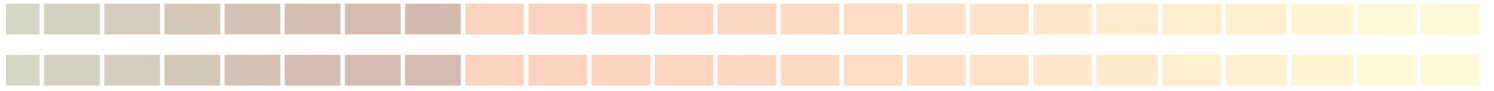
Standard Finish



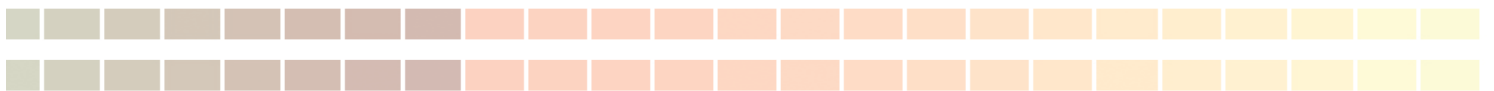
RAL 7000	RAL 7011	RAL 7030	RAL 7040	RAL 8003	RAL 9001	RAL 4001	RAL 4001	RAL 4007	RAL 5000
RAL 7001	RAL 7012	RAL 7031	RAL 7042	RAL 8004	RAL 9002	RAL 4002	RAL 4005	RAL 4008	RAL 5001
RAL 7002	RAL 7013	RAL 7032	RAL 7043	RAL 8007	RAL 9003	RAL 4003	RAL 4006	RAL 4009	RAL 5002
RAL 7003	RAL 7015	RAL 7033	RAL 7044	RAL 8008	RAL 9004	RAL 4010	RAL 5003	RAL 5009	RAL 5015
RAL 7004	RAL 7016	RAL 7034	RAL 7045	RAL 8011	RAL 9005	RAL 5017	RAL 5023	RAL 5011	RAL 5018
RAL 7005	RAL 7021	RAL 7035	RAL 7046	RAL 8012	RAL 9010	RAL 6006	RAL 6011	RAL 6002	RAL 6007
RAL 7006	RAL 7022	RAL 7036	RAL 7047	RAL 8014	RAL 9011	RAL 6003	RAL 6008	RAL 6013	RAL 6017
RAL 7008	RAL 7023	RAL 7037	RAL 8000	RAL 8015	RAL 9016	RAL 6004	RAL 6009	RAL 6014	RAL 6018
RAL 7009	RAL 7024	RAL 7038	RAL 8001	RAL 8016	RAL 9017	RAL 6005	RAL 6010	RAL 6015	RAL 6019
RAL 7010	RAL 7026	RAL 7039	RAL 8002	RAL 8017	RAL 9018	RAL 6033	RAL 6033		



Standard Finish



RAL 5005	RAL 5012	RAL 5019	RAL 1000	RAL 1006	RAL 1015	RAL 1020	RAL 1028	RAL 2000	RAL 2008
RAL 5007	RAL 5013	RAL 5020	RAL 1001	RAL 1007	RAL 1016	RAL 1021	RAL 1032	RAL 2001	RAL 2009
RAL 5008	RAL 5014	RAL 5021	RAL 1002	RAL 1011	RAL 1017	RAL 1023	RAL 1033	RAL 2002	RAL 2010
RAL 5022	RAL 5004	RAL 5010	RAL 1003	RAL 1012	RAL 1018	RAL 1024	RAL 1034	RAL 2003	RAL 2011
RAL 5024	RAL 6000	RAL 6001	RAL 1004	RAL 1013	RAL 1019	RAL 1027	RAL 1037	RAL 2004	RAL 2012
RAL 6012	RAL 6016	RAL 6027	RAL 1005	RAL 1014	RAL 3007	RAL 3012	RAL 3015	RAL 3018	RAL 3027
RAL 6020	RAL 6024	RAL 6028	RAL 3000	RAL 3003	RAL 3009	RAL 3013	RAL 3016	RAL 3020	RAL 3031
RAL 6021	RAL 6025	RAL 6029	RAL 3001	RAL 3004	RAL 3011	RAL 3014	RAL 3017	RAL 3022	RAL 3002
RAL 6022	RAL 6026	RAL 6032							



Certificates



عمان ش.م.م
Petroleum Develop

Sultanate of Oman
Ministry of Defence
Office of the Chief of Staff
Sultan's Armed Forces
P.O. Box 113
Code 100
Muscat



سلطنة عمان
وزارة الدفاع
مكتب القائد العام للقوات المسلحة
القوات المسلحة السلطانية
م.ب. ١١٣
مسقط
١٠٠

CERTIFICATE OF REFERENCE

CERTIFICATE NUMBER: **B2016-02817**

Vendor Code: **104994**

MANUFACTURER: MECHANICAL & TECHNICAL SOLUTIONS LLC
COUNTRY OF ORIGIN: OMAN
LOCAL AGENT: MECHANICAL & TECHNICAL SOLUTIONS LLC
COMMERCIAL AGENCY NO.: 1050205
POSTAL ADDRESS: P.O. Box 1020, PC 112, Ruwi, Oman

MECHANICAL & TECHNICAL SOLUTIONS LLC
P. O. BOX: 1020
Postal Code: 112
Ruwi
Sultanate of Oman

Sub: **APPROVED OF BSS FIRI**

Reference: M&T- ADMIN-OL-4

I. Product Approval Request above Ref, has been Studied and Approved at Ministry of Defence

CERTIFICATE OF COMPLIANCE

شهادة مطابقة للمعدات والأجهزة والمواد الخاصة بالدفاع المدني للمواصفات القياسية
تشهد الإدارة العامة للدفاع المدني
رقم الشهادة (دفاع مدني/روليف/ ٢٠١٦/٠١٢٠٦٤)

١- أبواب حديدية مقاومة للحريق

CERTIFICATE OF COMPLIANCE

Certificate Number: 20120406-R27391
Report Reference: R27391
Issue Date: 2012

Issued to: Mechanical & Technical Solutions LLC
15, Riyam Street, Matrah
P.O. Box 1020, PC 112, Ruwi, Oman

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Max Rating: 1 HD
Opening Type: Steel Covered Composite Type Door

CERTIFICATE

Certificate Number: 20120406-R27391
Report Reference: R27391
Issue Date: 2012

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

CERTIFICATE OF COMPLIANCE

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Names for use as a component in fire window assemblies that meet the requirements of UL9 (positive pressure):
Steel frames. Requires Glazing Materials and glazing compound Classified as components in fire window assemblies complying with UL 9. See Glazing Materials (KCMZ) for a list of glazing materials and Miscellaneous Fire Wires, Positive Pressure Tested (GVUY) for a list of glazing compounds.

Names for use as a component in fire window assemblies that meet the requirements of UL9 (neutral pressure):
Steel frames. Requires Glazing Materials Classified as components in fire window assemblies complying with UL 9.

certifire

CERTIFICATE OF APPROVAL
No CF 5135

MECHANICAL & TECHNICAL SOLUTIONS LLC
PO Box 1020, Ruwi - 112, Sultanate of Oman
Tel: +968 247 14177, F: +968 247 11069

CERTIFIED PRODUCT: Paper-honeycomb cored steel doors

Signature: Si Ken Knight, Chairman - Management Council

certifire

CERTIFICATE OF APPROVAL
No CF 5136

MECHANICAL & TECHNICAL SOLUTIONS LLC
PO Box 1020, Ruwi - 112, Sultanate of Oman
Tel: +968 247 14177, F: +968 247 11069

CERTIFIED PRODUCT: Mineral fibre cored steel doors

Signature: Si Ken Knight, Chairman - Management Council

CERTIFICATE OF COMPLIANCE

Certificate Number: X
Report Reference: X
Issue Date: X

Issued to: Mechanical & Technical Solution LLC
15, Riyam Street, Matrah
P.O. Box 1020, PC 112, Ruwi, Oman

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Names for use as a component in fire door assemblies that meet the requirements of UL10C:
Three sided steel frame with or without transoms (single swing, pairs and double egress pairs) (welded, knockdown).
Positive Pressure Tested (GSPN) bearing the "S" mark on the Classification Marking and Category II Smoke and Draft Control Gasketing. See Gasketing Materials for Fire Doors, Positive Pressure Marking and Category II Smoke and Draft Control Gaskets.

Names for use as a component in fire door assemblies that meet the requirements of UL10B (neutral pressure):
Three sided frames with or without transoms (single swing, pairs and double egress pairs) (welded, knockdown).

Certificates

KINGDOM OF BAHRAIN
MINISTRY OF THE INTERIOR
General Directorate of Civil Defence

مملكة البحرين
وزارة الداخلية
الديار، 1113، 1113

PSD15/3/FP/9/2306
M/S ORBIS International Co. S.P.C.
P.O. Box: 54657
ADLIYA,
Kingdom of Bahrain

Dear Sir,

"M & T" FIRE RATED STEEL

Thank you for your submittal dated 26/07/2013. The details and information regarding the fire rated doors manufactured by Mechanical and Technical Solutions LLC (M&T) are as follows:

As the fire rated doors are to be used in the following locations:

1. T...
2. C...
3. ...

Colonel
Director Pr.
General Dir.
Ali Mohann

بسم الله الرحمن الرحيم

وزارة الداخلية
الإدارة العامة للدفاع المدني
إدارة الوقاية

رقم الطلب: PAC15003265

التقرير الفني

المنتج:	Fire rated doors
تصنيف المنتج:	Fire Rated and Retardant materials
مقدم الطلب:	مكرفوت الهندسة والتجارة
الشركة المصنعة / بلد الصنع:	Mechanical and Technical Solutions LLC / OMAN
قائمة المنتجات:	

TECHNICAL REPORT

PRODUCT:	Fire rated doors
PRODUCT APPLICATION:	Fire Rated and Retardant materials
APPLICANT / P.O. Box:	مكرفوت الهندسة والتجارة
MANUFACTURER / LOCATION:	Mechanical and Technical Solutions LLC / OMAN
MODEL:	Mineral fibre cored steel
Rating:	Up to 240

وزارة الداخلية
الإدارة العامة للدفاع المدني
إدارة الوقاية

رقم الطلب:

التقرير الفني	المنتج:
Fire rated doors	Fire Rated and Retardant materials
Fire Rated and Retardant materials	مكرفوت الهندسة والتجارة
مكرفوت الهندسة والتجارة	Mechanical and Technical Solutions LLC / OMAN
Mechanical and Technical Solutions LLC / OMAN	الشركة المصنعة / بلد الصنع:
	قائمة المنتجات:

دولة الإمارات العربية المتحدة
وزارة الداخلية
الإدارة العامة للدفاع المدني
United Arab Emirates
Ministry of Interior
DCD General Directorate

2013
Colonel
Director Pr.
General Dir.
Ali Mohann

Tel: 009714 3611111
Fax: 009714 3611112

إدارة السلامة الوقائية - تم اعتماد الشركات

التقارير لأنظمة المباني ش.ذ.م.م

اسم الشركة

اسم الشركة	رقم شهادة	تاريخ الشهادة	اسم المهندس	رقم الترخيص
	22-1009			

Intertek
Performance Test Certificate

Issued To
MECHANICAL & TECHNICAL SOLUTIONS, LLC

Intertek tested a representative sample of a mechanical & Technical Solutions, LLC STANDARD STEEL DOOR

36 inch wide by 83 inch high by 1 1/4 inch thick door in a standard metal frame with Zero 566A saddle & 475A sound seal and then with 119WB spring bronze on the head and jamb

STANDARDS
ASTM E90-2009 "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions"
ASTM E413-2004 "Classification for Rating Sound Insulation"

RESULTS OF TEST
The system was tested and rated in accordance with the referenced standards and was determined to have a Sound Transmission Class Rating (STC) of **43 and 46**.

Reference Intertek Report Number 100413710CRT-001s, dated July 1, 2013

Intertek
Performance Test Certificate

Issued To
MECHANICAL & TECHNICAL SOLUTIONS, LLC

Intertek tested a representative sample of a mechanical & Technical Solutions, LLC STANDARD STEEL DOUBLE DOOR

36 inch wide by 83 inch high by 1 1/4 inch thick door in a standard metal frame with Zero 566A saddle & 475A sound seal and then with 119WB spring bronze added on the head and jamb.

STANDARDS
ASTM E90-2009 "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions"
ASTM E413-2004 "Classification for Rating Sound Insulation"

RESULTS OF TEST
The system was tested and rated in accordance with the referenced standards and was determined to have a Sound Transmission Class Rating (STC) of **40, 42 and 46**.

Reference Intertek Report Number 100413710CRT-001s, dated July 1, 2013



Velosi Quality Management International LLC

hereby certifies that the management system of
Mechanical & Technical Solutions LLC

Head Office: C.R. 1050205, P.B 1020, P.C 112, Ruwi, Sultanate of Oman
Factory (Steel Door & Powder Coating Division): Plot No. 271 & 24, Saqsouq Industrial Area,
Barka, Sultanate of Oman
Factory (Metal Works Division): Plot No. 1002, 1003 & 312, Way No. 6426, Street No. 546, Ghala,
Muscat, Sultanate of Oman

has been audited and found to be in compliance with
the requirements of

ISO 9001:2015
Quality Management System



for the Scope

Manufacturing of Fire rated and Non Fire Rated Steel Doors and Frames,
Powder Coating and Wet Spray Application on Wide Range of Steel and
Aluminium Products and Fabrication, Assembly and Installation of
Architectural, Structural and Metal Works.

Certificate No	: C 331
IAF/NACE code	: 17,28/25,43
Original Date	: 27.09.2011
Previous Expiry Date	: 26.09.2017
Re-certification Audit Dates	: 07&08.03.2018
Current Date	: 20.03.2018
Expiry Date	: 26.09.2020

Brian Dawes
General Manager

Applus+
VQMI

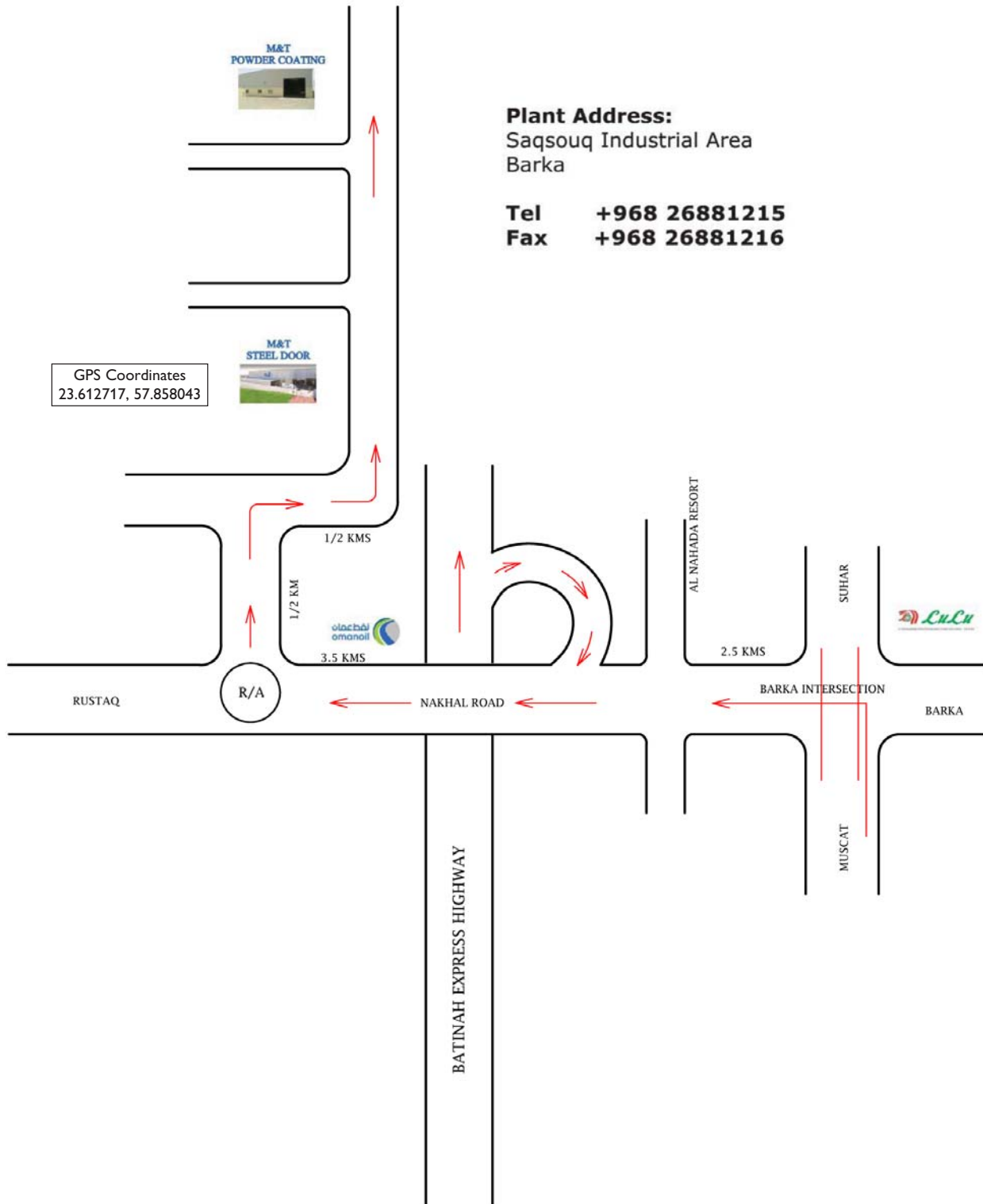
ISO 9001:2015 C331
MGMT. SYS. CERTIFIED



The certificate may be rendered invalid if there is any lack of fulfilment of conditions set out in the VQMI Rules of Certification

Correspondence Address: #205, Block 'B', Abu Dhabi Business Hub, P.O. Box: 114182, ICAD-I, Mussafah, Abu Dhabi (UAE)
Tel: 00971 2 5502600 **Fax:** 00971 2 5502601 **Email:** velosiqm@applusvelosi.com **Web:** www.vqmi.com

Plant Location Map





الحلول الميكانيكية والتقنية ش م م
MECHANICAL & TECHNICAL SOLUTIONS LLC
Steel Door & Powder Coating Division

Factory Address

P.O.Box 1020, Ruwi, 112, Sultanate of Oman
Tel.: 00968 26881215, Fax: 00968 26881216
E-mail: info-sd@mechanical-technical.com

Export Division

E-mail: export@mechanical-technical.com
Tel.: +968 99317867

You Tube <http://www.youtube.com/user/MandTSD>

www.mechanical-technical.com



Intertek

Public Authority for
Civil Defence and Ambulance
(Sultanate of Oman)

Civil Defense
(State of Qatar)

Civil Defense
(Kingdom of Bahrain)

Civil Defense
(Dubai, UAE)

Civil Defense
(Iran)

M&T-SLS-FM-07
Rev. 3

