



# SHEETMETAL ENCLOSURES



Safety Electrical Sheet Metal Manufacturing LLC  
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# Company Profile



**Safety Electricals Group** was established in 1982 and has since grown to become a prominent industry leader in the electrical and lighting sector in the region.

The Company specializes in the manufacturing and assembly of Sheet Metal Enclosures and Low Voltage (LV) Switchgear Panels, as well as trading of Electrical and Lighting Components for application in various industries.

The **Switchgear** and **Sheet Metal** manufacturing divisions are located in Techno Park industrial area (Dubai) in a 100,000 sq. ft. purpose-built facility that employs an experienced and highly skilled workforce of over 100 people. The **Electrical** and **Lighting** trading divisions are headquartered in Al-Quoz industrial area (Dubai) and have an extensive presence in the region with several showrooms located throughout the UAE.

Safety Electrical Group is an ISO 9001:2008 certified company and is affiliated to several internationally renowned companies such as ABB, Hager, Dorman Smith, Larsen & Toubro (L&T), Legrand, Siemens, Luvata, Socomec, Circutor, Electronicon, Pollmann Elektrotechnik, Gama Illuminer, Domino Lighting, TMT and Osram.





# Sheet Metal Division



**Safety Electricals Sheet Metal Division** is a complete in-house manufacturing unit performing design, fabrication and powder coating of sheet metal enclosures for various applications.

The entire manufacturing process is carried out to specific procedures and work instructions that have been developed in accordance with ISO 9001:2008 standards.

The enclosures are IP 55 protection class rated in accordance with IEC 60529 and have been independently certified by ASTA.

## **Manufacturing Equipment**

- CNC Punching
- Bending and Cutting Machines
- Welding and Grinding Equipment
- Automated Electrostatic Powder Coating



# Multi Row Enclosures (CB-Series)



**DIN Type Multi Row Enclosures** are made from electro-galvanized steel sheets and are designed for easy installation and wiring.

The enclosures are available from one (1) to six (6) rows with a DIN rail spacing of 150mm between the rows. The DIN chassis has a wire spacing of 20mm from the rear wall and is adjustable (depth) when required.

The sixteen (16) module horizontal width provides superior space utilization and phase balancing when used in combination with ELCB's, i.e. four (4) modules for ELCB's + twelve (12) modules for MCB's.

- Surface and Flush type DB's
- 1 to 6 row DB's
- 16 modules per row
- Powder coated to RAL 7035\*\*
- IP 41 protection class
- Wide body allows ample wiring space
- Reversible door frame for left/right side opening

\*\*Other colors and special finishing available upon request.

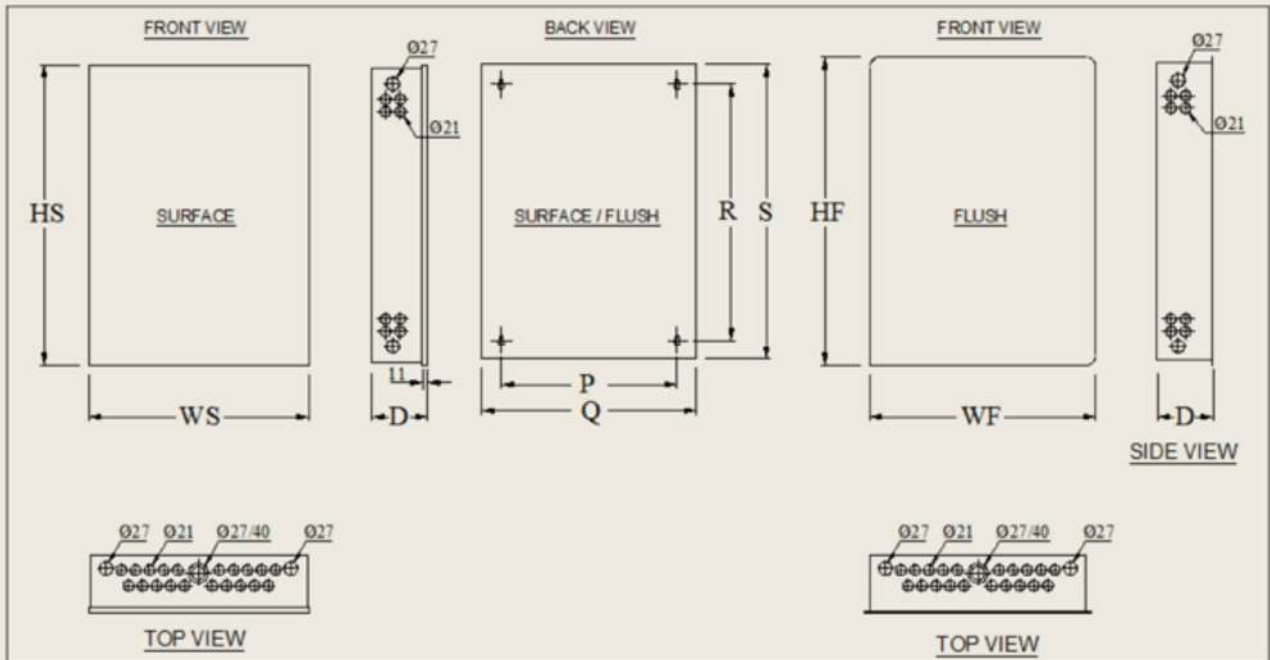


# Multi Row Enclosures (CB-Series)

## MODULAR ENCLOSURE DIMENSIONS

ROWS	HS	WS	D	HF	WF	P	Q	R	S	REF. No.*
1 ROW	310	450	115	330	470	360	450	220	300	SESM CB-1R16M
2 ROW	460	450	115	480	470	360	450	370	450	SESM CB-2R16M
3 ROW	610	450	115	630	470	360	450	520	600	SESM CB-3R16M
4 ROW	760	450	115	780	470	360	450	670	750	SESM CB-4R16M
5 ROW	910	450	115	930	470	360	450	820	900	SESM CB-5R16M
6 ROW	1060	450	115	1080	470	360	450	970	1050	SESM CB-6R16M

\* Please include 'S' for Surface or 'F' for Flush Type DB in your order.



# Service Enclosures (S-Series)



**Service Enclosures** are available in a wide range of sizes making it a well suited option for a variety of control and distribution applications. It is distinctly designed and engineered to allow maximum utilization of enclosure space.

The door frame is provided with hinges with a 130° opening angle and is reversible for left or right side opening. A large cable entry area is also provided through a removable gland plate.

- Wall or Floor mounted
- EG/GI steel sheets
- Powder coated to RAL 7032 or 7035\*\*
- Mounting plate RAL 2000 coated
- IP 55 protection class
- Reversible door frame for left/right side opening
- Welded earth studs

\*\*Other colors and special finishing available upon request.





<b>SERVICE ENCLOSURE DIMENSIONS</b>									
SL No.	H	W	D	REF. No.	SL No.	H	W	D	REF. No.
1	200	200	150	SESM S-202015	20	800	600	250	SESM S-806025
2	250	200	150	SESM S-252015	21	800	800	200	SESM S-808020
3	300	200	150	SESM S-302015	22	800	800	250	SESM S-808025
4	300	250	150	SESM S-302515	23	1000	600	200	SESM S-1006020
5	300	250	200	SESM S-302520	24	1000	600	250	SESM S-1006025
6	300	300	200	SESM S-303020	25	1000	600	300	SESM S-1006030
7	400	300	150	SESM S-403015	26	1000	800	250	SESM S-1008025
8	400	400	150	SESM S-404015	27	1000	800	300	SESM S-1008030
9	400	400	200	SESM S-404020	28	1200	800	200	SESM S-1208020
10	500	400	200	SESM S-404020	29	1200	800	250	SESM S-1208025
11	600	400	200	SESM S-604020	30	1200	1000	300	SESM S-12010030
12	600	400	250	SESM S-604025	31	1400	800	300	SESM S-1408030
13	600	500	150	SESM S-605015	32	1400	800	400	SESM S-1408040
14	600	500	200	SESM S-605020	33	1400	1000	400	SESM S-14010040
15	600	500	250	SESM S-605025	34	1600	800	300	SESM S-1608030
16	600	600	200	SESM S-606020	35	1600	800	400	SESM S-1608040
17	600	600	300	SESM S-606030	36	1600	1000	300	SESM S-16010030
18	700	500	200	SESM S-705020	37	1600	1200	400	SESM S-16012040
19	800	600	200	SESM S-806020	38	1800	1200	400	SESM S-18012040

<b>GLAND BOX DIMENSIONS</b>				
SL No.	Height	Width	Depth	REF. No.
1	200	400	200	SESM GB-204020
2	200	500	200	SESM GB-204020
3	250	600	200	SESM GB-204020
4	300	800	200	SESM GB-204020

# Extendable Enclosures (EX-Series)



**Extendable Enclosures** are available in five (5) standard sizes and can be easily joined together to achieve any required width. The perforated side channels are designed and engineered to accept a depth adjustable mounting plate or uprights.

The door frame is provided with concealed hinges with a 180° opening angle and is reversible for left or right side opening.

- Floor mounted
- Extendable on either side
- EG/GI steel sheets
- IP 55 protection class
- Powder coated to RAL 7032 or 7035\*\*
- Reversible door frame for left/right side opening
- Welded earth studs

\*\*Other colors and special finishing available upon request.

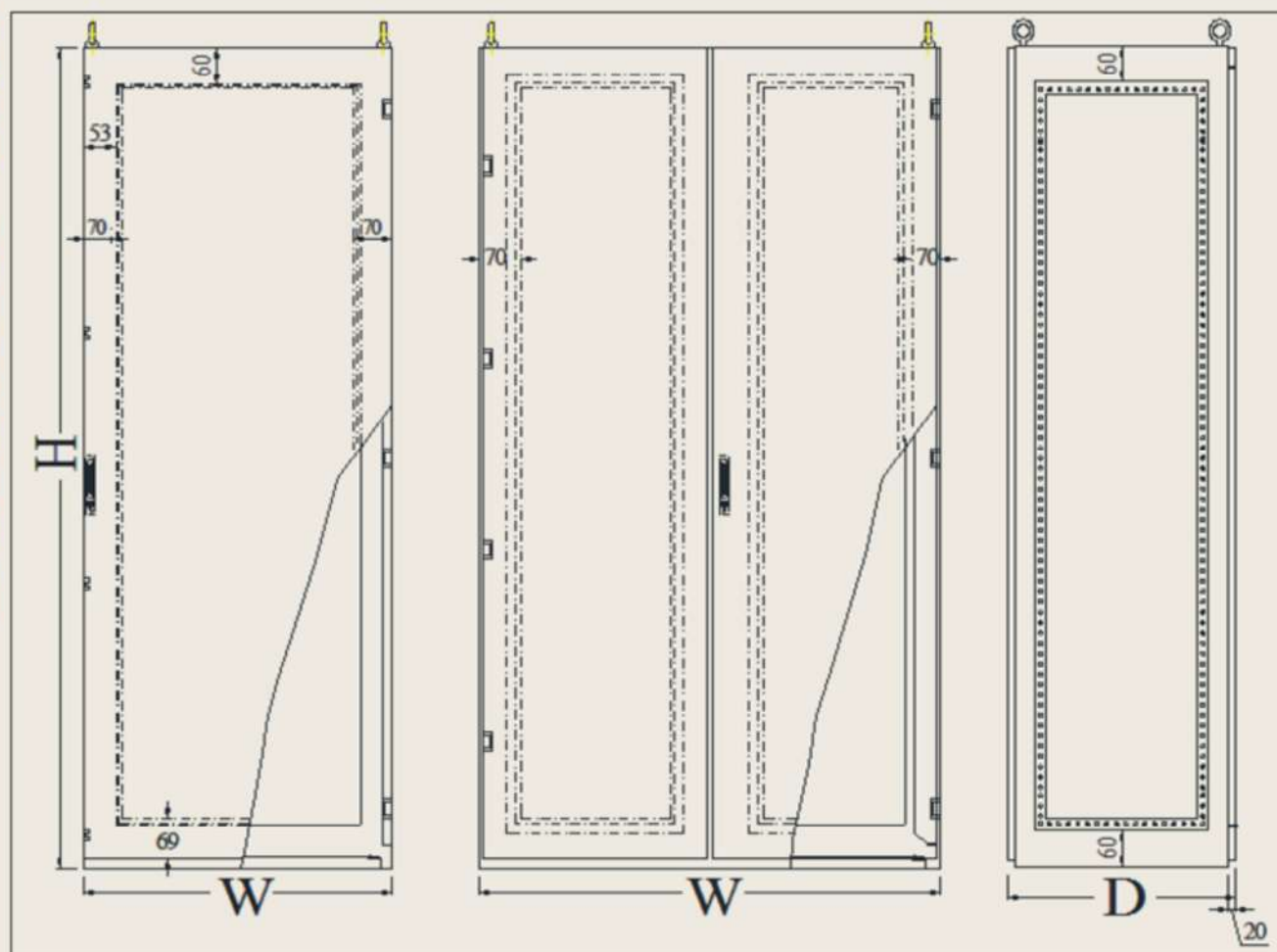




EXTENDABLE ENCLOSURES					
SL No.	H	W	D	Enclosure REF. No.	Mounting Plate REF. No.
1	2000	400	600	SESM EX-2004060	SESM EXMP-2004060
2	2000	600	600	SESM EX-2006060	SESM EXMP-2006060
3	2000	800	600	SESM EX-2008060	SESM EXMP-2008060
4	2000	1000	600	SESM EX-20010060	SESM EXMP-20010060
5	2000	1200	600	SESM EX-20012060	SESM EXMP-20012060

## SIDE COVER

Side Cover Pair 600mm - EX-2006060



**Form-4 Enclosures** are designed to allow complete separation of the functional units and connection terminals from each other and from the busbar systems.

All circuit breakers and control components are compartmentalized and hinged doors are provided for independent access during maintenance.

- Free standing design
- Modular construction
- Main frame & door - EG/GI steel sheets
- Internal segregation - EG/GI steel sheets
- IP 55 protection class
- Powder coated to RAL 7032 or 7035\*\*
- Extendable on either side
- Forms of separation -
  - Form 4a Type 1
  - Form 4a Type 2
  - Form 4a Type 3
  - Form 4b Type 4
  - Form 4b Type 5
  - Form 4b Type 6
  - Form 4b Type 7

\*\*Other colors and special finishing available upon request.

## Low Voltage Form 4 Switchboard Range

- Power Control Center (PCC)
- Main Distribution Board (MDB)
- Motor Control Center (MCC)





# Test Certificates

**SAFETY**  
EST. 1982

**Intertek**

Name & Address of the Client/Manufacturer	Safety Electrical Switchgear Mfg. L.L.C. P.O. Box 3454, Techno Park, Dubai - United Arab Emirates
Tested By	Irfan Khan
Reviewed By	Rakesh Chaurasia
Product Description Nomenclature of the Product	Form 4 Type 6 Enclosure
Model No./Type No.	SESMF4
Serial No. (s)	Not Applicable
Quantity / No. of Pages	One / 04
Trade Mark	-
Year of Manufacture	2012
Project Details	
Project Number	DL12 04 109
Date of receipt of item	07.05.2012 to 09.05.2012
Condition of item on its receipt	PHYSICALLY GOOD
Date of completion of testing	09.05.2012
Date of issue	06.05.2012
Testing Details	
Testing Location	Intertek India Private Limited E-20, Block 91, Mohan Co-operative Industrial Estate, Mathura Road, New Delhi - 110044, India
Details of Testing	IP 55
Applicable Standard Specification	As per clients request for EN/IEC 60529:1992 + A1 and A2

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**Intertek**

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Report No.: DL12 04 109-001

## Test Results: SESMF4

Sl.	Cl. No.	Test Parameters	Requirements	Observations	Remarks
1	12	Test for degree of protection against ingress by hazardous parts with a wire (IP 5X)	Enclosure should provide protection of persons against access to hazardous parts by preventing or limiting the ingress of a part of the human body or an object held by a person. Test wire of 1.0mm Ø shall not penetrate the enclosure and adequate clearance shall be kept between the test wire and hazardous parts.	Access probe of 1.0mm Ø does not penetrate inside the enclosure.	Pass
2	13	Test for degree of protection against the solid foreign objects (IP 5X) Enclosure Category - II	Enclosure should provide protection of equipment against the ingress of solid foreign objects. No dust shall deposit where it could lead to tracking along the creepage distances.	Category - II Equipment. No dust particles observed inside the enclosure.	Pass
3	14.2.5	Visual Check With naked eyes	There shall be no visual damage and presence of dust or water inside the IUT.	No dust or water particle found inside the sample.	Pass
		Test for degree of protection against ingress of water (IPX3) Internal Dia. of Nozzle - 6.3mm. Delivery rate - 12.5 ltr / min ±5%. Duration - 3 Min. Distance 2.5 m to 3 m	Enclosure should provide protection with respect to harmful effects on the equipments due to ingress of water.	No ingress of water observed in the enclosure.	Pass

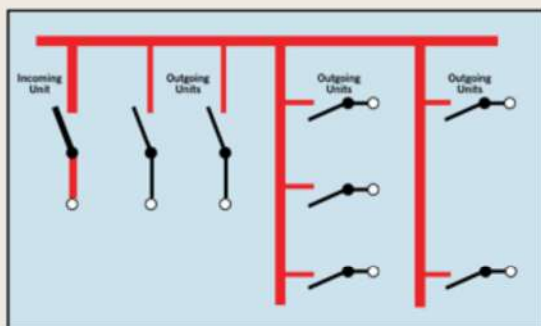
## REMARKS:

- The test results presented in the test report relates only to the prototype item as an empty enclosure tested.

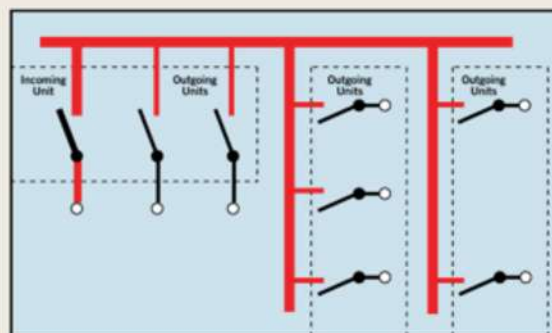


# Forms of Separation

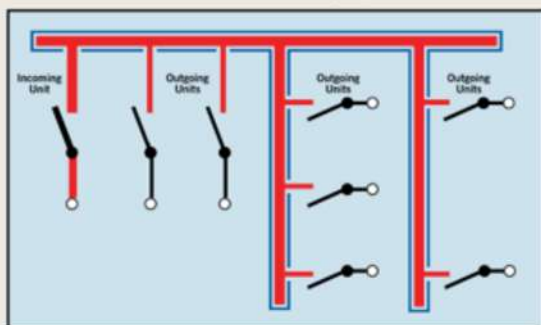
Form 1



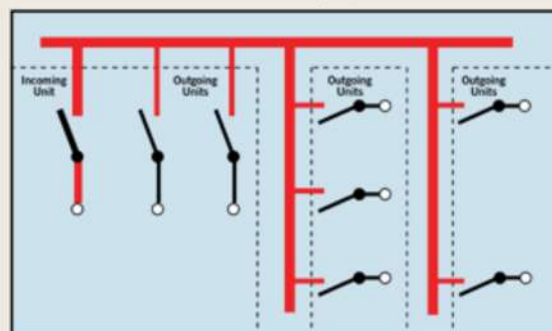
Form 2a



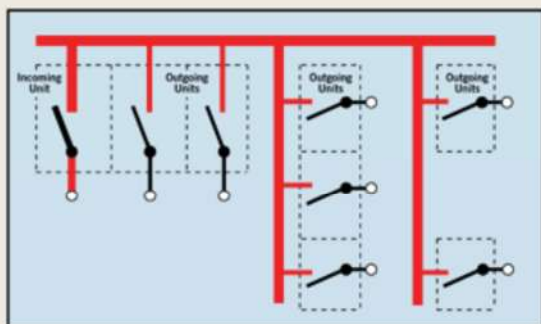
Form 2b Type 1



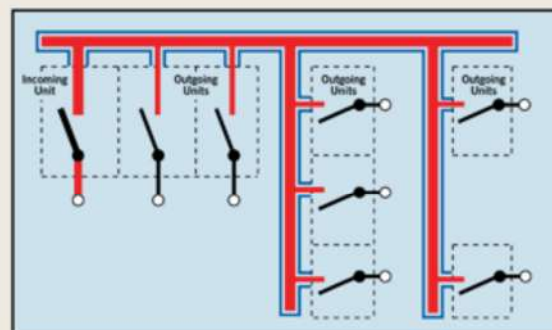
Form 2b Type 2



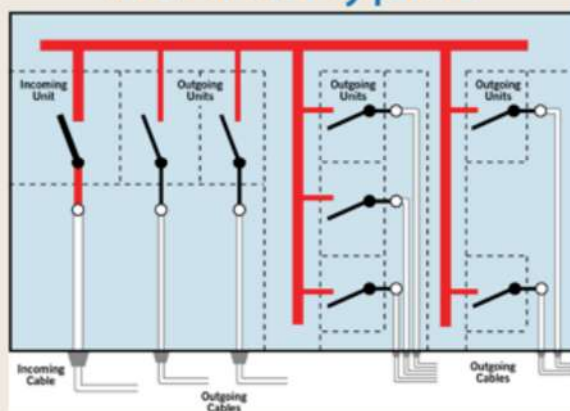
Form 3a



Form 3b Type 1



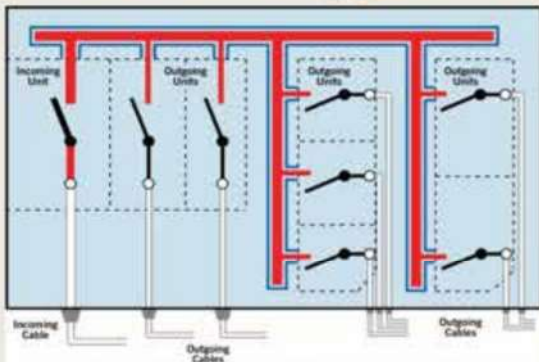
Form 3b Type 2



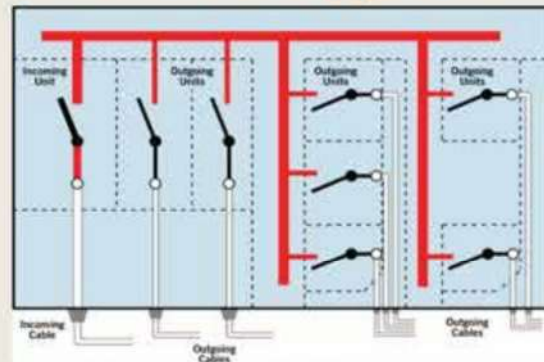


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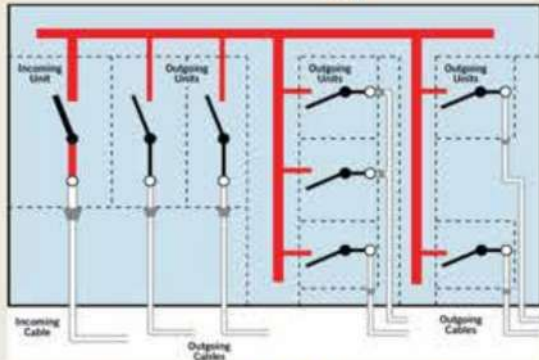
Form 4a Type 1



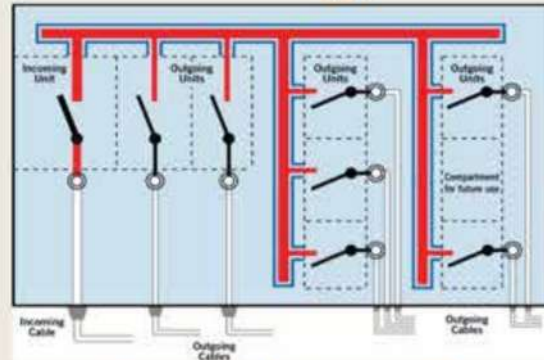
Form 4a Type 2



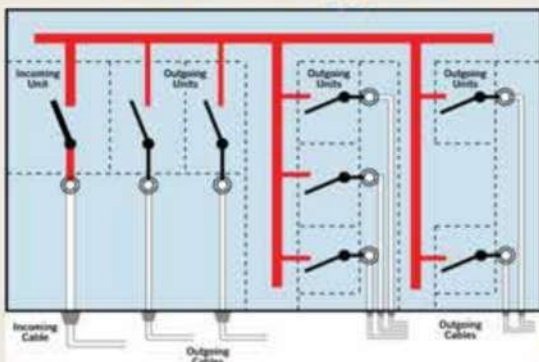
Form 4a Type 3



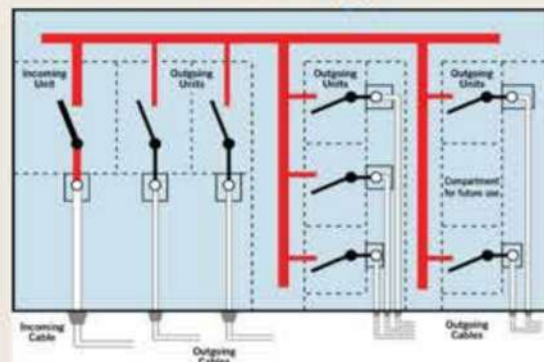
Form 4b Type 4



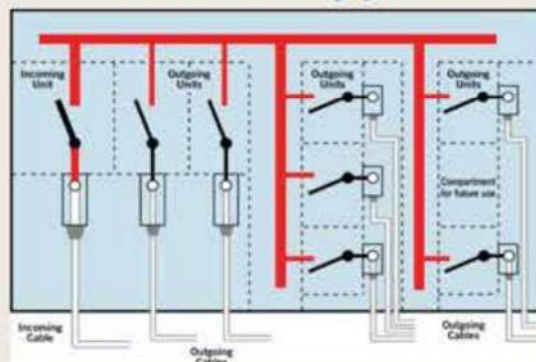
Form 4b Type 5



Form 4b Type 6



Form 4b Type 7





# Powder Coating RAL Chart



RAL 1000	RAL 1001	RAL 1002	RAL 1003	RAL 1004	RAL 1005	RAL 1006	RAL 1007
RAL 1011	RAL 1012	RAL 1013	RAL 1014	RAL 1015	RAL 1016	RAL 1017	RAL 1018
RAL 1019	RAL 1020	RAL 1021	RAL 1022	RAL 1023	RAL 1024	RAL 1025	RAL 1026
RAL 1033	RAL 1034	RAL 1035	RAL 1036	RAL 1037	RAL 1038	RAL 1039	RAL 1040
RAL 2009	RAL 2010	RAL 2011	RAL 2012	RAL 2013	RAL 2014	RAL 2015	RAL 2016
RAL 3004	RAL 3005	RAL 3007	RAL 3009	RAL 3011	RAL 3012	RAL 3013	RAL 3014
RAL 3015	RAL 3016	RAL 3017	RAL 3018	RAL 3020	RAL 3022	RAL 3027	RAL 3031
RAL 4001	RAL 4002	RAL 4003	RAL 4004	RAL 4005	RAL 4006	RAL 4007	RAL 4008
RAL 4009	RAL 5000	RAL 5001	RAL 5002	RAL 5003	RAL 5004	RAL 5005	RAL 5007
RAL 5008	RAL 5009	RAL 5010	RAL 5011	RAL 5012	RAL 5013	RAL 5014	RAL 5015
RAL 5017	RAL 5018	RAL 5019	RAL 5020	RAL 5021	RAL 5022	RAL 5023	RAL 5024
RAL 5000	RAL 6001	RAL 6002	RAL 6003	RAL 6004	RAL 6005	RAL 6006	RAL 6007
RAL 6008	RAL 6009	RAL 6010	RAL 6011	RAL 6012	RAL 6013	RAL 6014	RAL 6015
RAL 6016	RAL 6017	RAL 6018	RAL 6019	RAL 6020	RAL 6021	RAL 6022	RAL 6024
RAL 6025	RAL 6026	RAL 6027	RAL 6028	RAL 6029	RAL 6032	RAL 6033	RAL 6034
RAL 7000	RAL 7001	RAL 7001	RAL 7002	RAL 7003	RAL 7004	RAL 7005	RAL 7006
RAL 7008	RAL 7009	RAL 7010	RAL 7011	RAL 7012	RAL 7013	RAL 7015	RAL 7016
RAL 7021	RAL 7022	RAL 7023	RAL 7024	RAL 7026	RAL 7030	RAL 7031	RAL 7032
RAL 7033	RAL 7034	RAL 7035	RAL 7036	RAL 7037	RAL 7038	RAL 7039	RAL 7040
RAL 7042	RAL 7043	RAL 7044	RAL 8000	RAL 8001	RAL 8002	RAL 8003	RAL 8004
RAL 8007	RAL 8008	RAL 8011	RAL 8012	RAL 8014	RAL 8015	RAL 8016	RAL 8017
RAL 8019	RAL 8022	RAL 8023	RAL 8024	RAL 8025	RAL 8028	RAL 8001	RAL 9002
RAL 9003	RAL 9004	RAL 9005	RAL 9010	RAL 9011	RAL 9016	RAL 9017	RAL 9018