



**TECHNICAL SUBMITTAL**

**FOR**

**STEEL DOOR**

	<b>PROJECT:</b>		<b>DATED:</b>	<b>03.11.2017</b>
	<b>CONTRACTOR</b>		<b>REF:</b>	
			<b>PREPARED BY:</b>	-
	<b>SCOPE:</b>	SUPPLY & INSTALLTION OF STEEL DOOR	<b>REVIEWED BY:</b>	-
<b>TITLE:</b>	TECHNICAL SUBMITTAL FOR STEEL DOOR	<b>REVISION NO.</b>	00	



## [PROJECT SPECIFIC]

1. SPECIFICATION.....
2. DOOR DESIGN.....
3. DOOR HANDING.....
4. FRAME SECTION.....
5. GI SHEET MILL CERTIFICATE .....
6. TECHNICAL DATA HONEY COMB.....
7. TECHNICAL DATA – GLASS.....
8. TECHNICAL DATA- PAINT.....
9. TECHNICAL DATA- ADHESIVE.....
10. TECHNICAL DATA- ANCHOR BOLT.....
11. METHOD STATEMENT-CONSTRUCTION & PAINTING.....
12. METHOD STATEMENT-INSTALLATION.....
13. CERTIFICATE.....



## SPECIFICATION

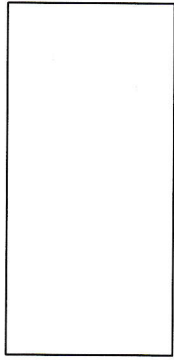
<b>Material:</b>	ASTM A792 CS (Type B), 55% Aluminum Zinc Coated Steel Sheet.
<b>Frame Steel Sheet thickness:</b>	1.5mm Thickness
<b>Door Steel Sheet thickness:</b>	1.2mm Thickness
<b>Door Thickness:</b>	44 mm
<b>Frame Corner:</b>	Header and Jambs to be Mechanically interlocked with via tab and slot preparations. Faces of frames to be welded and finished smooth.
<b>Door Edges:</b>	Top and bottom sheets to be mechanically interlocked using tab and slot mechanisms with each tab / slot to be not more than 100 mm apart along the vertical edge.
<b>Core Construction:</b>	<ul style="list-style-type: none"> <li>Manufacturer's standard in Honey Comb.</li> </ul>
<b>Glass</b>	Schutt - Pyran S Glass
<b>Adhesive:</b>	Polyurethane adhesive, SIKA L35
<b>Anchor:</b>	4 mm GI Flat bar
<b>Paint:</b>	Jotun Polyester Powder coat.
<b>Tolerances:</b>	Comply with SDI 117, "Manufacturing tolerances for Standard Steel Doors and Frames"
<b>Hinge Reinforcement:</b>	4.0 mm GI plate projection welded at 5 points on top and 4 on the bottom
<b>Closer Reinforcement:</b>	1.5 mm GI Sheet
<b>Other Reinforcement:</b>	1.5 mm GI Sheet
<b>Fire Rating:</b>	NFR & Up to 240 min



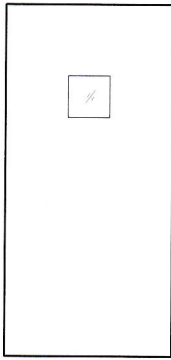
## DOOR DESIGN



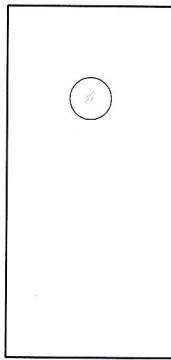
# DOORDESIGN



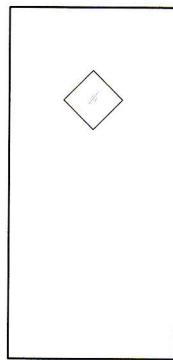
**F**  
FULL FLUSH



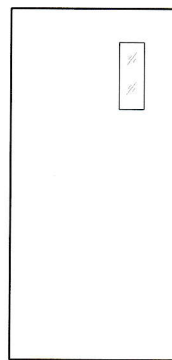
**VS**  
VISION SMALL  
(250X250mm)



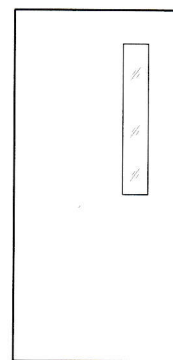
**VR**  
VISION ROUND



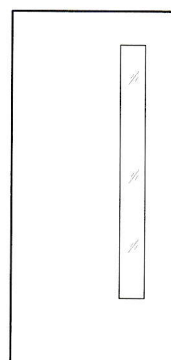
**VD**  
VISION  
DIAMOND  
(250X250mm)



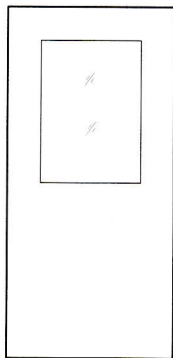
**N1**  
NARROW LITE  
(150X400mm)



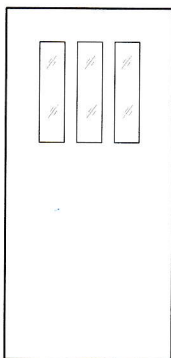
**N2**  
NARROW LITE  
(150X900mm)



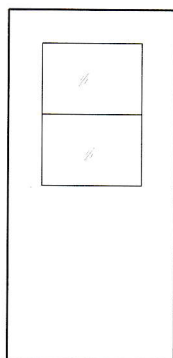
**N3**  
NARROW LITE  
(150X1520mm)



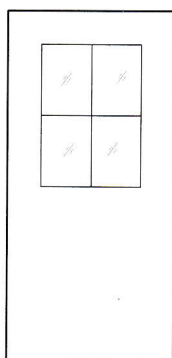
**G**  
HALF GLASS



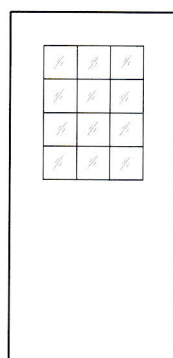
**3G**  
3 GLASS



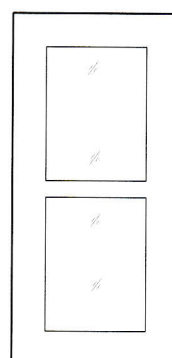
**EG2**  
ETCHED GLASS  
2 SECTION



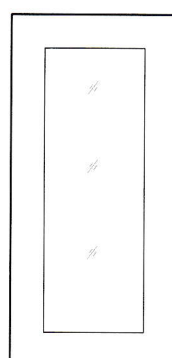
**EG4**  
ETCHED GLASS  
4 SECTION



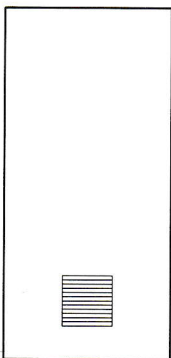
**EG9**  
ETCHED GLASS  
9 SECTION



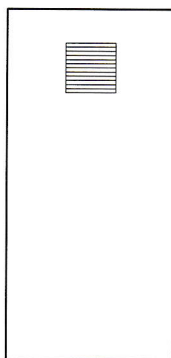
**T&B**  
TOP & BOTTOM  
GLASS



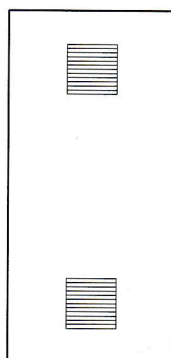
**EGF**  
ETCHED GLASS  
FULL



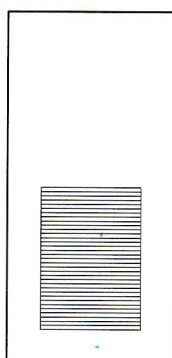
**BL**  
BOTTOM LOUVER  
(300X300mm)



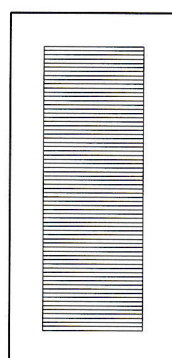
**TL**  
TOP LOUVER



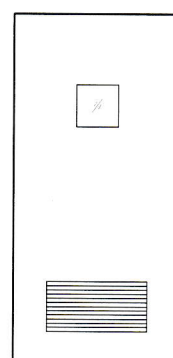
**T&B**  
TOP & BOTTOM  
LOUVER



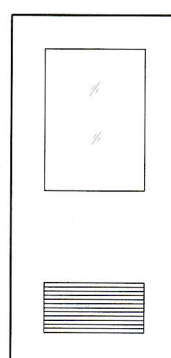
**HBL**  
HALF BOTTOM  
LOUVER



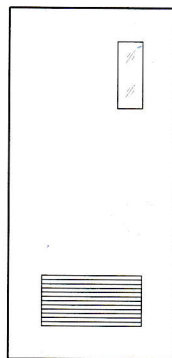
**FL**  
FULL LOUVER



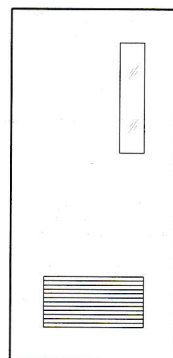
**V&B**  
VISION &  
BOTTOM LOUVER



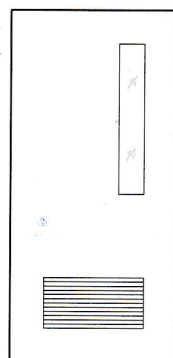
**G&B**  
HALF GLASS &  
BOTTOM LOUVER



**N1BL**  
NARROW LITE  
(150X400mm) &  
BOTTOM LOUVER



**N2BL**  
NARROW LITE  
(150X900mm) &  
BOTTOM LOUVER



**N3BL**  
NARROW LITE  
(150X1520mm) &  
BOTTOM LOUVER

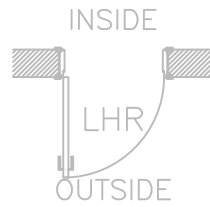
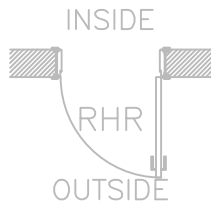
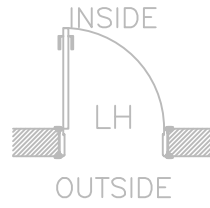
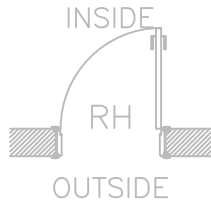


## DOOR HANDING

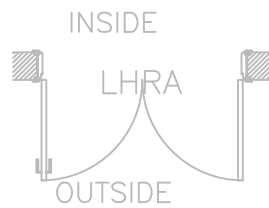
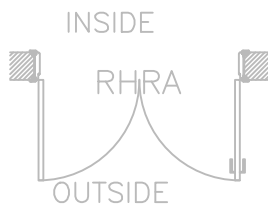
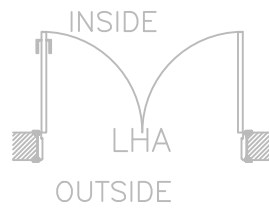
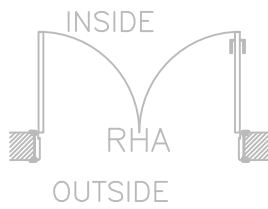


DOOR HANDING CHART ( ASTM )

SINGLE DOOR



DOUBLE DOOR



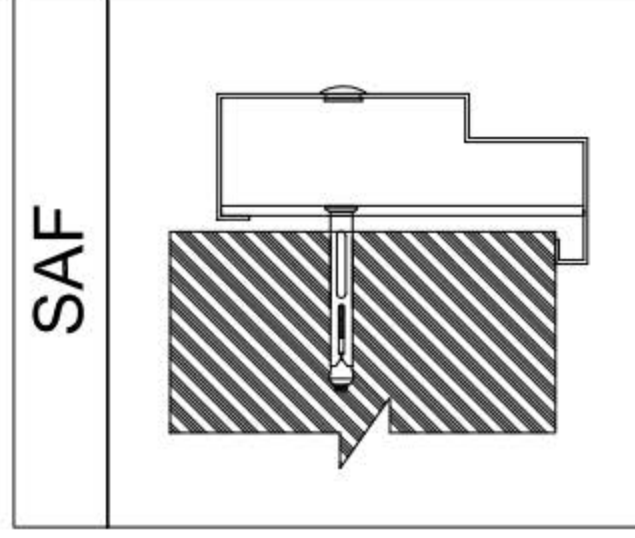
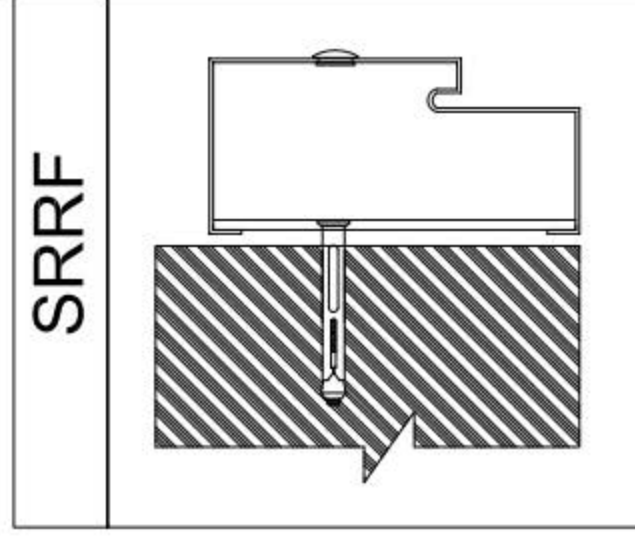
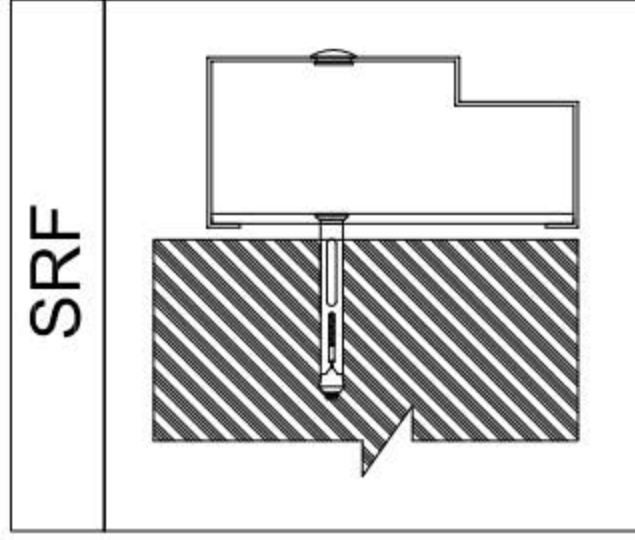
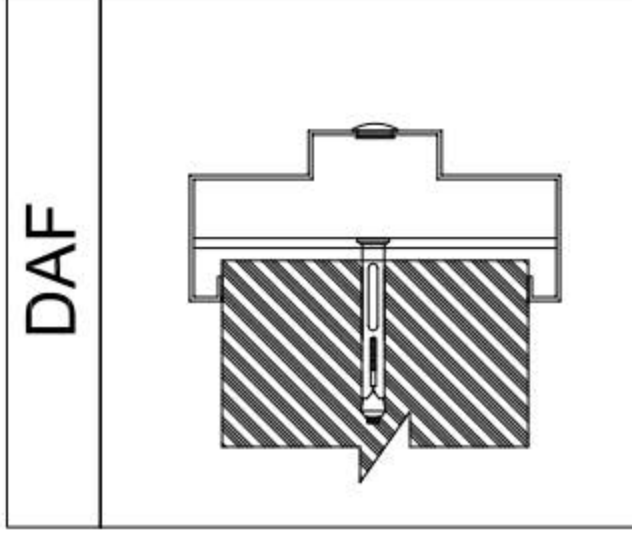
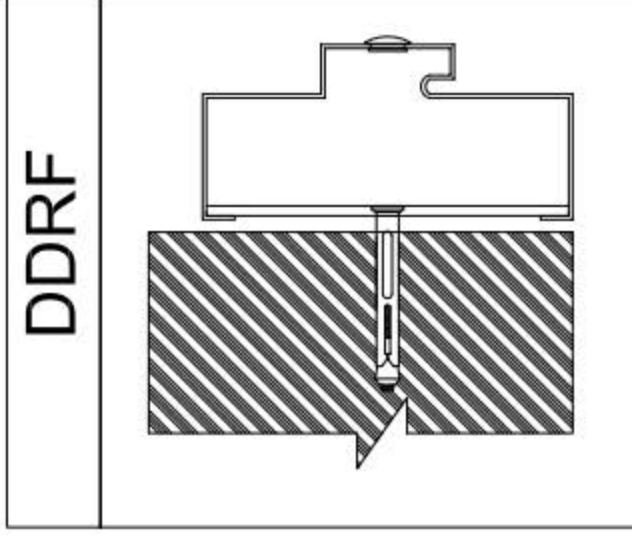
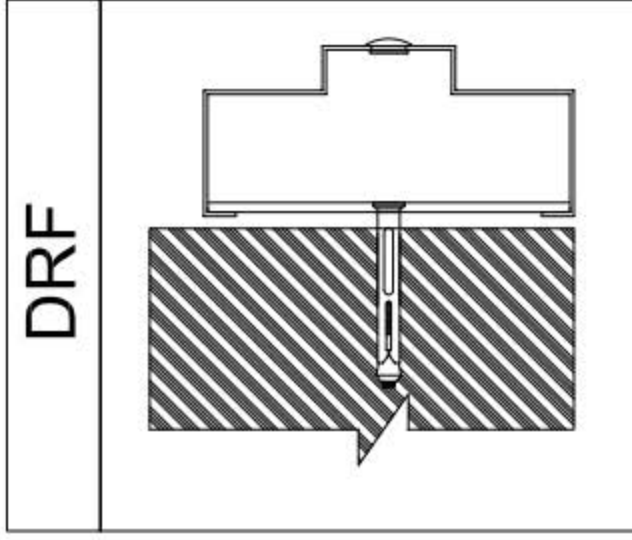




## FRAME SECTION



# DIFFERENT FRAME SECTION





# GI SHEET MILL CERTIFICATE





# 검사 증명서 INSPECTION CERTIFICATE

증명서 번호 : 81795842  
 CERTIFICATE NO : 81795842  
 발행년월일 : APR. 30. 2015  
 DATE OF ISSUE : APR. 30. 2015  
 계약번호 : EE1505080  
 CONTRACT NO : EE1505080  
 품명 : GALVANNEALED STEEL SHEETS  
 COMMODITY : GALVANNEALED STEEL SHEETS  
 적용규격 : JIS G 3302 SGGC  
 SPECIFICATION : JIS G 3302 SGGC

고객 : PETROYAS FZE  
 CUSTOMER : PETROYAS FZE  
 취급상사 : 에스티인터내셔널  
 SHIPPER : ESTI INTERNATIONAL  
 DESTINATION : JEBEL ALI

**동부제철**      냉연공장  
**DONGBU STEEL CO., LTD.**  
 \* HEAD OFFICE: STX Namsan Tower, 98, Hnam-ro, Jung-gu, Seoul, Korea, 100-958  
 TEL : (080) 5600-114  
 E-MAIL : dbsteel@dongbu.com  
 \* Dangi In Works/Cold Rolling Mill : 1228, Bukbuseop-ro, Songak-eup, Dangi In-si, Chungcheongnam-do, KOREA  
 TEL : (041) 351-8313

주문처 수 ORDER SIZE	제품번호 PRODUCT NO	CHARGE NO	검사번호 PACK-INSPECTION NO	수량 QUANTITY		제품치수 DIMENSION (mm)			인장시험 TENSILE TEST			경도 HARDNESS	종로 ROUSET	IMPACT TEST	BEND TEST	SKIN PASS	CT유기 CHEMICAL ANALYSIS	OT TREATMENT	부착량 COATING WEIGHT (g/m <sup>2</sup> )	화학성분 CHEMICAL COMPOSITION(%)				비고 REMARKS	
				매수 SHEET	KGS	두께 THICKNESS	나비 WIDTH	길이 LENGTH	항복 Y.P	인장 T.S	연신 EL.									C	P	SI	Mn		SoI
02 F10	11 EBJU10	C1847101	92	3,008	6,631	1,500	1219.0	2250.0	279.5	351.1	44.6	57	G	Y	C	N	U	108.5	40	13	7	1	17	29	
	12 EBJU1E	C1847101	92	3,008	6,631	1,500	1219.0	2250.0	279.5	351.1	44.6	57	G	Y	C	N	U	108.5	40	13	7	1	17	29	
	13 EBJU1F	C1847101	92	3,008	6,631	1,500	1219.0	2250.0	279.5	351.1	44.6	57	G	Y	C	N	U	108.5	40	13	7	1	17	29	
	14 EBJU1G	C1847101	77	2,518	5,551	1,500	1219.0	2250.0	279.5	351.1	44.6	57	G	Y	C	N	U	108.5	40	13	7	1	17	29	
	== SIZE TOTAL ==		14	41,822	91,754																				
	== FILE TOTAL ==		36	107,236	236,402																				
	== GRAND TOTAL ==		36	107,236	236,402																				




상기 제품은 규정의 시험을 행하여 합격하였음을 증명합니다.  
 WE HEREBY CERTIFY THAT THE PRODUCT DESCRIBED  
 HEREIN HAS BEEN SATISFACTORILY TESTED IN  
 ACCORDANCE WITH THE SPECIFICATION.

\* G : GOOD      \* ORGANIC  
 Y : Yes      N : No  
 O : Non-Cr Post Treatment

\* CHEMICAL TREATMENT  
 N : NO CHROMATED  
 H : HEAVY CHROMATED  
 C : NORMAL CHROMATED  
 L : LOW CHROMATED

\* OIL TREATMENT  
 U : UNOILED (DRY)  
 H : HEAVY OILED  
 N : NORMAL OILED  
 L : LIGHTLY OILED  
 S : SLIGHTLY OILED  
 B : BIG HEAVY OILED

확인  
  
 CHIEF OF QUALITY ASSURANCE TEAM  
 원본 - ORIGINAL

<b>1. Exporter (Name, address, country)</b> ST. International 502, Gangnam-daero, Gangnam-gu, SEOUL, KOREA Floor 8th Rm 825	Reference No. 001-15-0395265 Reference Code. dbe0-c7bf	<b>ORIGINAL</b>
<h1>CERTIFICATE OF ORIGIN</h1> <p>issued by  <b>THE KOREA CHAMBER OF COMMERCE &amp; INDUSTRY</b>          Seoul, Republic of Korea</p>		
<b>2. Consignee (Name, address, country)</b> PETROYAS FZE P.O. BOX 262078 PLOT NO : S31217, SOUTH JAFZA, JEBEL ALI, DUBAI, UAE T. +971 4 427 0260 / F. +971 4 427 0250	<b>3. Country of Origin</b>  THE REPUBLIC OF KOREA	<b>5. Remarks</b>
<b>4. Transport details</b> FROM : BUSAN PORT, KOREA TO : JEBEL ALI, U.A.E BY : CMA CGM ALASKA 925W ON : 05 JUN. 2015	End Of Page...	
<b>6. Marks &amp; numbers; number and kind of packages; description of goods</b>  GA, GALVANEALD  (REMARKS : 7210.90.9000)  36 BUNDLES (3826 SHEETS)  NET 107.236MT GROS 110.476MT  ----- 36BD 36BD 107.236MT 110.476MT  //////////////////////////////////////		
<b>8. Declaration by the Exporter</b> The undersigned, as an authorized signatory, hereby declares that the above-mentioned goods were produced or manufactured in the country shown in box 3.  <div style="text-align: center;">   <b>ST. International</b>          (Signature)  <b>에스티인터내셔널</b>          안태영          (Name) DIRECTOR AHN TAE YOUNG       </div>	<b>9. Certification</b> The undersigned authority hereby certifies that the goods described above originate in the country shown in box 3 to the best of its knowledge and belief.  <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="text-align: center;"> <b>09 JUN 2015</b>          Manager  <b>EUN-SUK AHN</b>          -----          Authorized Signatory       </p>	



## TECHNICAL DATA – HONEY COMB







## Data Sheet

Date of measurement:	20-06-2013	Customer order confirmation No:	
<b>Product Specification</b>		<b>Material Specification</b>	
Cell Size:	17-60 mm	Paper supplier:	SAPPI- South Africa Pty Ltd
Paper weight:	160gsm- 250gsm	Mill:	Tugela Mill
Product weight:	various	Material:	Unbleached pulp and kraft
Paper quality:	Brown Industrial Kraft	<b>1. Management system:</b>	<b>ISO 9001: 2008</b>
Width before expanded:	800mm - 1200mm	Certificate Reg. No:	324403 QM08
Expanded length:	1000mm- 3000mm	Date of certification:	29-02-12
Expanded width:	500mm-1000mm	Valid until:	28-02-15
Glue quality:	PVAc	<b>2. Quality management system:</b>	Cirtified by IQ Net & DQS GmbH Deutsche Gesellschaft zur Zertifizierung Von Managementsystemen. Registration No. DE- 324403 QM08
Paper supplier:	SAPPI	<b>3. Enviromental management system:</b>	<b>ISO 14001:2001 + Cor 1</b>
Production date:	Various	Cirtification Reg. No:	324403 UM
Name customer:		Date of cirtfiction:	29-02-12
Moisture Level:	8% - 12%	Valid until:	28-02-15
Production order no.	Application: Steel Door, wood door, furniture, dry walling		

Height of cut:	any size	Grooved:	No/Yes	Hot pressing:	Yes
				Cold pressing:	Yes
Wet weight per m <sup>2</sup> :	447,65 gram	Dry weight per m <sup>2</sup> :	424,6 gram		

No.	Collapsion pressure	Remark
1	6,0	Pass
2	6,1	Pass
3	5,7	Pass
4	5,8	Pass
5	6,1	Pass
6	6,1	Pass
7	6,0	Pass
8	5,8	Pass
Average 47,6:8=5,96		

Correction factor referring to diameter pressure plate (surface)  
 $\approx 107.0 = 1:2$

**Pressure strength**  
 Pressure strength = Av. Collapsion pressure: Correction factor- cm<sup>2</sup>  
 $5,96 : 2 = 2,98 \text{ Kg/cm}^2$

**Moisture content (Ideal 5%)**  
 Moisture content =  $\frac{\text{Wet weight} - \text{Dry weight}}{\text{Wet weight}} \times 100\%$   
 $(580,3 - 551,2) : 580,3 \times 100\% = 5\%$

According to: ISO 11093-3:1994

**APPROVED**

Customer Application

Pressing: Heavy duty door pressing

Type of door: Steel Door/Wood Door

**APPROVED**

Date:	20/06/2013	Edition:	1	Page:	1
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## TECHNICAL DATA – GLASS

# Better safe than sorry. But for SCHOTT, that's just not good enough.

## More functionality with double glazing units

A strong partnership – fire resistant glazing and functional glass

ISO PYRAN® double glazing units can be used whenever PYRAN® fire resistant glazing needs to fulfil other glass functions as well.



ISO PYRAN® makes extraordinary designs possible like the BMW-World in Munich.

*In combination with functional glasses for double-glazing construction, ISO PYRAN® meets additional demands in terms of aesthetics and energy-efficiency. ISO PYRAN® counterpanes can be custom-designed and shaped, offering advantages in the following categories:*

- + Sun protection (anti-glare)
- + Heat insulation
- + Sound insulation
- + Safety against falling or overhead obstacles
- + Design
- + Personal safety and property security
- + X-ray protection
- + Screening, with its integrated sunblind system.

**Standard design ISO PYRAN® S / ISO PYRAN® S-D**

- 1 PYRAN® S pane,  $\geq 5$  mm thick
- 2 Space between the panes,  $\geq 8$  mm wide
- 3 Inner panes,  $\geq 4$  mm thick, can be tinted, printed and/or coated
- 4 Spacer, sheet steel profile

- 1 PYRAN® S pane,  $\geq 6$  mm thick
- 2 Space between the panes,  $\geq 8$  mm wide
- 3 Inner panes,  $\geq 6$  mm thick, laminated sheet glass (LSG), can be tinted, printed and/or coated
- 4 Spacer, sheet steel profile

**Standard design ISO PYRAN® R**

- 1 PYRAN® R middle pane,  $\geq 5$  mm thick
- 2 Space between the panes,  $\geq 8$  mm wide
- 3 Outer pane,  $\geq 6$  mm thick, float glass
- 4 Inner pane,  $\geq 6$  mm thick, laminated sheet glass (LSG), can be tinted, printed or coated
- 5 Spacer, sheet steel profile

*In ceilings, fire resistant glazing is used to prevent fire from jumping from floor to floor. Because these glasses are subject to particular loads, for overhead areas, the use of laminated sheet glass is required.*



## As changeable as a chameleon

ISO PYRAN®'s multi-functionality is also guaranteed in terms of design elements. Glasses with ornamentation, colours or patterns can be used as counterpanes in fire resistant double glazing products, turning them into real eye-catchers.

## Design with sand-blasting

Sand-blasting can be used to purposely modify the surface structure of PYRAN® S panes. A visually inconspicuous design is the result, the aesthetics of which are fully revealed with illumination. This process does not diminish the durability or the performance of these functional glasses. When added to the glass surface, extremely thin and nearly invisible functional layers protect it from corrosion, dirt and other contamination.

## Design with screen printing

Entire surfaces of PYRAN® S can be printed without restriction on the degree of printing, so that characteristics such as glass transparency, energy flow and/or glare protection can be individually managed.

With rich colour nuances and an abundance of patterns, screen printing opens up a wealth of new design possibilities for fire resistant glazing. Depending on the colours chosen, either screen printing or a roller process is used to apply them to the glass surface. In the subsequent thermal tempering process, the colours are burned into the glass surface. The resulting glasses are as colourfast, abrasion-resistant, scratch-resistant and weather-proof as unprocessed glass surfaces, and require just the same low maintenance.

## Easy, convenient sun protection and screening

Easy to use, electrically operated foil blinds and electric or manually operated Venetian blinds fit exactly into the space between panes of ISO PYRAN®. They are easy to use and can be controlled and positioned as desired. These systems offer dependable sun protection, screening and glare protection, specific control over ambient light, energy savings and comfort.

## Meets every demand

The innovations from SCHOTT open up completely new perspectives regarding the creative interplay among function, aesthetics and design. Fire resistant glazing from SCHOTT Technical Glass Solutions GmbH meets the demands of modern architecture and makes it possible to ensure safety and construct protective barriers that are user-friendly and nearly invisible.



*Evelina Children's Hospital, London: Sandblasted PYRAN® S offers privacy as well as reassuring safety.*



*Mercedes-Benz Museum Stuttgart: not just the elaborately designed fire resistant glazing with the two-colour screen-printed pattern and the PYRAN® S-SF butt joint glazing – almost everything at the Mercedes-Benz Museum is unique.*



# For the clear perspective you're accustomed to: PYRAN®. Numbers and facts.

## Technical data

Glass type	Fire resistance time according to EN 13501	Glass thickness [mm]	Weight [kg/m <sup>2</sup> ]	Light transmission [%]	Ug-value [k/Wm <sup>2</sup> ]	g-value [%]	Sound insulation value [dB]	Max. manufacturing size [mm]
PYRAN® white	E 30	5	11,1	92,6	5,8	91	30	1600 x 3000
PYRAN® S	E 30 – 120	5	11,4	92	5,8	90	30	1650 x 3100
		6	13,7	92			31	
		8	18,2	92			32	
		10	22,8	91			33	
		12	27,4	91			34	

Min. manufacturing size  
W x H [mm]

130 x 270

Other designs and possible combinations can be found in the technical data or will be provided by request. The maximum size tested can be found in the applicable national approval.

If you have further questions about special glass from SCHOTT for fire resistant glazing, use our service hotline!

 **+49 (0)3641/681-4666**





## TECHNICAL DATA - PAINT

# Product Data Sheet

## Corro-Coat PE-F Facade Series 1301, 1303, 1307 and 1308

**Product Description** Corro-Coat PE-F Series 1301, 1303, 1307 and 1308 are exterior durable polyester lead-free TGIC powder coatings especially formulated to satisfy the most stringent requirements for colour stability, gloss retention and corrosion protection. Corro-Coat PE-F Series 1301, 1303, 1307 and 1308 provide a uniform flow and finish even after re-cycling.

**Application Areas** Primary areas of application are architectural aluminium extrusions and claddings. The overall excellent properties and attractive appearance of Corro-Coat PE-F Series 1301, 1303, 1307 and 1308 make them suitable for application to other ferrous and non-ferrous substrates.

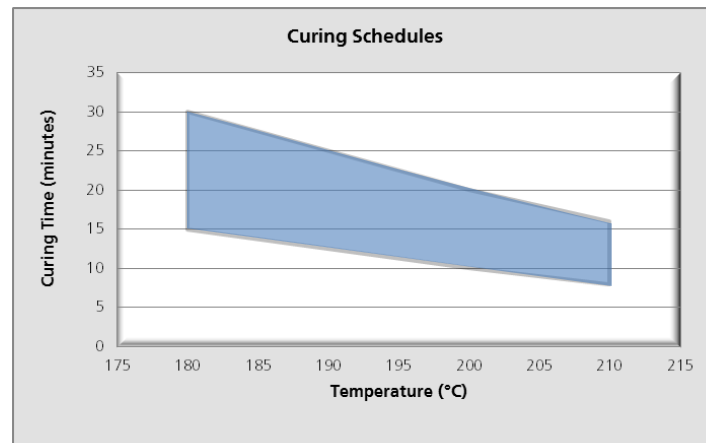
When screen printing or sealants are used, it is advised to run separate trials to ensure compatibility and to meet the required performance criteria.

**Pre-treatment** The overall quality of the coating system is largely dependent on the type and quality of the pre-treatment. The recommended types of pre-treatment for the most frequently used substrates are:

Aluminium	Chromate conversion
Steel	Zinc phosphate
Zinc coated steel	Zinc phosphate or chromate conversion
Final rinse (deionized)	The last running water from the object should be tested at 20°C. The readings obtained should measure below 30µS/cm.

Suitable chrome-free pre-treatments for Aluminium are also recommended. Due to the variety of chrome-free pre-treatments available today, only the approved systems from Qualicoat and GSB should be used. Detailed advice should be sought from the pre-treatment supplier.

### Curing Schedules



**Colour Selection** Corro-Coat PE-F Series 1301, 1303, 1307 and 1308 are available in a wide assortment of custom-made colours and metallic finishes, including RAL and NCS. Corro-Coat PE-F Series 1303, 1307 and 1308 are also available in the Cool Shades Collection, a selection of colours with heat-reflective properties.

**Powder Application** Corro-Coat PE-F Series 1301, 1303, 1307 and 1308 are available for Corona or Tribo charging equipment

**Product Warranty** Corro-Coat PE-F Series 1301, 1303, 1307 and 1308 are backed by a 10-year product warranty system for exterior application when used on architectural aluminium substrates, subject to terms and conditions

**Storage Conditions** Keep in a dry cool area. Recommended maximum temperature 25°C. Maximum relative humidity 60%. Under these mentioned conditions, product shelf life is 12 months from production date.

## Maintenance

Please refer to "Powder Coated Façades' Maintenance" document.

## Approvals

Please consult your local Jotun Powder Coatings' production unit.

## Technical Data

The technical data provided below are typical for Corro-Coat PE-F Series 1301, 1303, 1307 and 1308 applied to 0.8mm chromated aluminium panels (60-90 micron film thickness). Typical values when tested have not necessarily been recently revised.

Description	Norm	Series 1301	Series 1303	Series 1307	Series 1308
Gloss*	EN ISO 2813 (60°)	12 ± 5	30 ± 5	77 ± 7	90 ± 10
Finish	Visual	Soft Texture	Smooth	Smooth	Smooth
Adhesion	EN ISO 2409 (2 mm)	Cross-cut rating Gt0 (100% adhesion).			
Impact resistance	EN ISO 6272/ASTM D2794 (impactor diameter 15.9 mm)	More than 23 inch-pounds or 2.5Nm without film cracking.			
Cupping test	EN ISO 1520	Indentation depth in excess of 5mm without film cracking			
Flexibility	EN ISO 1519	Cylindrical Mandrel bending test, passes 5mm Mandrel diameter.			
Film hardness	EN ISO 2815	Indentation resistance according to Buchholz: >80.			
Mortar resistance	EN 12206-1	The mortar must be easy to remove without leaving any residues.			
Drilling, milling and sawing test		No flaking of coating.			
Neutral salt spray resistance	ASTM B117	No blistering or loss of adhesion after 1,000 hours.			
Humidity resistance containing SO <sub>2</sub>	EN ISO 3231 (0.2 l SO <sub>2</sub> )	No infiltration exceeding 1mm on both sides of the scratch after 30 cycles.			
Humidity resistance	EN ISO 6270-2	No infiltration exceeding 1mm on both sides of the scratch after 1000 hours.			
Acetic acid salt spray resistance	ISO 9227	After 1,000 hours testing – maximum 16 mm <sup>2</sup> infiltration over a scratch length of 10cm.			
Accelerated weathering	DIN EN ISO 11507(UVB-313)	Cycle: 4 hours at 50°C UV and 4 hours at 40°C condensation. No chalking, excellent gloss retention and colour stability after 300 hours testing.			
Accelerated weathering	DIN EN ISO 11507 (UVA-340)	Cycle: 8 hours at 60°C UV and 4 hours at 45°C condensation. No chalking, excellent gloss retention and colour stability after 1000 hours testing.			
Natural weathering test	ISO 2810(South Florida, 27°N)	No chalking, excellent gloss retention and colour stability after 12 months exposure (angle of 5° to South).			
Surface spread of flame	BS 476 Part 7 – 1997	Class 1			
Fire propagation test	BS 476 Part 6 – 1989	Excellent index of performance (I=1).			
Total Solar Reflectance**	ASTM C 1549	Grades 1303R, 1307R and 1308R: TSR ≥ 0.25			

\* If the significant surface is too small or unsuitable for the gloss to be measured with the glossmeter, the gloss should be compared visually with the reference sample (from the same viewing angle).

\*\* Only applicable to Corro-Coat PE-F Series 1303, 1307 and 1308 for the colours featured in the 'Cool Shades Collection'.

**Note:** The information on this Product Data Sheet is given to the best of the manufacturer's knowledge, based on laboratory testing and practical experience. However, as the product is often used under conditions beyond the manufacturer's control, only the quality of the product itself can be guaranteed. Jotun Powder Coatings reserves the right without notice to alter or change the content of this Product Data Sheet.

Jotun Powder Coatings. Revised September 2012.

THIS PRODUCT DATA SHEET SUPERSEDES ALL PREVIOUSLY ISSUED VERSIONS.



RAL COLOR CHART \*\*\*\*\* This Chart is to be used as a guide only. Colors May Appear Slightly Different \*\*\*\*\*

RAL 1000		Green Beige	RAL 4007		Purple Violet	RAL 7008		Khaki Grey
RAL 1001		Beige	RAL 4008		Signal Violet	RAL 7009		Green Grey
RAL 1002		Sand Yellow	RAL 4009		Pastel Violet	RAL 7010		Tarpaulin Grey
RAL 1003		Signal Yellow	RAL 5000		Violet Blue	RAL 7011		Iron Grey
RAL 1004		Golden Yellow	RAL 5001		Green Blue	RAL 7012		Basalt Grey
RAL 1005		Honey Yellow	RAL 5002		Ultramarine Blue	RAL 7013		Brown Grey
RAL 1006		Maize Yellow	RAL 5003		Sapphire Blue	RAL 7015		Slate Grey
RAL 1007		Chrome Yellow	RAL 5004		Black Blue	RAL 7016		Anthracite Grey
RAL 1011		Brown Beige	RAL 5005		Signal Blue	RAL 7021		Black Grey
RAL 1012		Lemon Yellow	RAL 5007		Brilliant Blue	RAL 7022		Umbra Grey
RAL 1013		Oyster White	RAL 5008		Grey Blue	RAL 7023		Concrete Grey
RAL 1014		Ivory	RAL 5009		Azure Blue	RAL 7024		Graphite Grey
RAL 1015		Light Ivory	RAL 5010		Gentian Blue	RAL 7026		Granite Grey
RAL 1016		Sulfer Yellow	RAL 5011		Steel Blue	RAL 7030		Stone Grey
RAL 1017		Saffron Yellow	RAL 5012		Light Blue	RAL 7031		Blue Grey
RAL 1018		Zinc Yellow	RAL 5013		Cobolt Blue	RAL 7032		Pebble Grey
RAL 1019		Grey Beige	RAL 5014		Pigeon Blue	RAL 7033		Cement Grey
RAL 1020		Olive Yellow	RAL 5015		Sky Blue	RAL 7034		Yellow Gre
RAL 1021		Rape Yellow	RAL 5017		Traffic Blue	RAL 7035		Light Grey
RAL 1023		Traffic Yellow	RAL 5018		Turquoise Blue	RAL 7036		Platinum Grey
RAL 1024		Ochre Yellow	RAL 5019		Capri Blue	RAL 7037		Dusty Grey
RAL 1027		Curry	RAL 5020		Ocean Blue	RAL 7038		Agate Grey

RAL 1028		Melon Yellow	RAL 5021		Water Blue	RAL 7039		Quartz Grey
RAL 1032		Broom Yellow	RAL 5022		Night Blue	RAL 7040		Window Grey
RAL 1033		Dahli Yellow	RAL 5024		Pastel Blue	RAL 7042		Traffic Grey A
RAL 1034		Pastel Yellow	RAL 6000		Patina Green	RAL 7043		Traffic Grey B
RAL 2000		Yellow Orange	RAL 6001		Emerald Green	RAL 7044		Silk Grey
RAL 2001		Red Orange	RAL 6002		Leaf Green	RAL 7045		Telegrey 1
RAL 2002		Vermillion	RAL 6003		Olive Green	RAL 7046		Telegrey 2
RAL 2003		Pastel Orange	RAL 6004		Blue Green	RAL 7047		Telegrey 4
RAL 2004		Pure Orange	RAL 6005		Moss Green	RAL 8000		Green Brown
RAL 2008		Bright Red Orange	RAL 6006		Grey Olive	RAL 8001		Ochre Brown
RAL 2009		Traffic Orange	RAL 6007		Bottle Green	RAL 8002		Signal Brown
RAL 2010		Signal Orange	RAL 6008		Brown Green	RAL 8003		Clay Brown
RAL 2011		Deep Orange	RAL 6009		Fir Green	RAL 8004		Cooper Brown
RAL 2012		Salmon Orange	RAL 6010		Grass Green	RAL 8007		Fawn Brown
RAL 3000		Flame Red	RAL 6011		Reseda Green	RAL 8008		Olive Brown
RAL 3001		Signal Red	RAL 6012		Black Green	RAL 8011		Nut Brown
RAL 3002		Carmine Red	RAL 6013		Reed Green	RAL 8012		Red Brown
RAL 3003		Ruby Red	RAL 6014		Yellow Olive	RAL 8014		Sepia Brown
RAL 3004		Purple Red	RAL 6015		Black Olive	RAL 8015		Chestnut Brown
RAL 3005		Wine Red	RAL 6016		Turquoise Green	RAL 8016		Mahogany Brown
RAL 3007		Black Red	RAL 6017		May Green	RAL 8017		Chocolate Brown
RAL 3009		Oxide Red	RAL 6018		Yellow Green	RAL 8019		Grey Brown
RAL 3011		Brown Red	RAL 6019		Pastel Green	RAL 8022		Black

						Brown		
RAL 3012		Beige Red	RAL 6020		Chrome Green	RAL 8023		Orange Brown
RAL 3013		Tomato Red	RAL 6021		Pale Green	RAL 8024		Beige Brown
RAL 3014		Antique Pink	RAL 6022		Olive Drab	RAL 8025		Pale Brown
RAL 3015		Light Pink	RAL 6024		Traffic Green	RAL 8028		Terra Brown
RAL 3016		Coral Red	RAL 6025		Fern Green	RAL 9001		Cream
RAL 3017		Rose	RAL 6026		Opal Green	RAL 9002		Grey White
RAL 3018		Strawberry Red	RAL 6027		Light Green	RAL 9003		Signal White
RAL 3020		Traffic Red	RAL 6028		Pine Green	RAL 9004		Signal Black
RAL 3022		Salmon Pink	RAL 6029		Mint Green	RAL 9005		Jet Black
RAL 3027		Raspberry Red	RAL 6032		Signal Green	RAL 9006		White Aluminum
RAL 3031		Orient Red	RAL 7000		Squirrel Grey	RAL 9007		Grey Aluminum
RAL 4001		Red Lilac	RAL 7001		Silver Grey	RAL 9010		Pure White
RAL 4002		Red Violet	RAL 7002		Olive Grey	RAL 9011		Graphite Black
RAL 4003		Heather Violet	RAL 7003		Moss Grey	RAL 9016		Traffic White
RAL 4004		Claret Violet	RAL 7004		Signal Grey	RAL 9017		Traffic Black
RAL 4005		Blue Lilac	RAL 7005		Mouse Grey	RAL 9018		Papyrus White
RAL 4006		Traffic Purple	RAL 7006		Beige Grey			



## TECHNICAL DATA - ADHESIVE



# SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - Europe

SikaForce®-7110 L35



## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : SikaForce®-7110 L35

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

At present there is no complete information available on identified uses. When the data becomes available, it will be integrated into the safety data sheet.

**Product use** : Sealant/adhesive.

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/Distributor** : Sika UAE L.L.C  
Plot No. 597-544 Dubai Investment Park 2  
Dubai 126212  
UAE

**Telephone no.:** : +971 4 439 8200

**Fax no.** : +971 4 439 3606

**e-mail address of person responsible for this SDS** : EHS@ae.sika.com

**Emergency telephone number** : -

### 1.4 Emergency telephone number

#### Supplier

**Telephone number** : -

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Eye Irrit. 2, H319  
Resp. Sens. 1, H334  
Skin Sens. 1, H317  
Carc. 2, H351

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

#### Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : Carc. Cat. 3; R40  
Xi; R36/37/38  
R42/43

**Human health hazards** : Limited evidence of a carcinogenic effect. Irritating to eyes, respiratory system and skin. May cause sensitisation by inhalation and skin contact.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Date of issue** : 11.01.2015.

**MSDS no.** : 217639-1

1/14

**SECTION 2: Hazards identification**

Hazard pictograms :



Signal word :

: Danger

Hazard statements :

: Causes serious eye irritation.  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 May cause an allergic skin reaction.  
 Suspected of causing cancer.

**Precautionary statements****Prevention**

: Obtain special instructions before use. Use personal protective equipment as required. Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves and eye or face protection.

**Response**

: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. IF exposed: Get medical attention.

**Hazardous ingredients**

: Diphenylmethanediisocyanate, isomeres and homologues

**Supplemental label elements**

: Contains isocyanates. May produce an allergic reaction.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

: Not applicable.

**2.3 Other hazards**

**Other hazards which do not result in classification**

: None known.

**SECTION 3: Composition/information on ingredients****Substance/mixture**

: Mixture

**Chemical family/**

: Modified aromatic isocyanate

**Characteristics**

Product/ingredient name Identifiers	%	Classification		Type
		67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Tris(2-chloro-1-methylethyl) phosphate RRN: 01-2119486772-26 EC: 911-815-4 CAS: 1244733-77-4	>=7 - <25	Xn; R22	Acute Tox. 4, H302	[1]
Diphenylmethanediisocyanate, isomeres and homologues EC: 618-498-9 CAS: 9016-87-9	>=5 - <10	Carc. Cat. 3; R40 Xn; R20, R48/20 Xi; R36/37/38 R42/43	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 (Respiratory tract irritation) STOT RE 2, H373 (lungs) (inhalation)	[1]
dibutyltin dilaurate RRN: 01-2119496068-27	>=0.1 - <0.25	Muta. Cat. 3; R68 Repr. Cat. 2; R60,	Skin Corr. 1B, H314 Skin Sens. 1, H317	[1]

**Date of issue**

: 11.01.2015.

**MSDS no.** : 217639-1**2/14**

**SECTION 3: Composition/information on ingredients**

EC: 201-039-8 CAS: 77-58-7		R61 T; R48/25 C; R34 R43 N; R50/53  <b>See Section 16 for the full text of the R-phrases declared above.</b>	Muta. 2, H341 Repr. 1B, H360FD (Fertility and Unborn child) STOT SE 1, H370 (stomach) (oral) STOT RE 1, H372 (stomach) (oral) Aquatic Acute 1, H400 Aquatic Chronic 1, H410  <b>See Section 16 for the full text of the H statements declared above.</b>
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures****4.1 Description of first aid measures**

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

## SECTION 4: First aid measures

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### 4.2 Most important symptoms and effects, both acute and delayed

#### Potential acute health effects

**Eye contact** : Causes serious eye irritation.  
**Inhalation** : May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
**Skin contact** : May cause an allergic skin reaction.  
**Ingestion** : Irritating to mouth, throat and stomach.

#### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness  
**Inhalation** : Adverse symptoms may include the following:  
 wheezing and breathing difficulties  
 asthma  
**Skin contact** : Adverse symptoms may include the following:  
 irritation  
 redness  
**Ingestion** : No specific data.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  
**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.  
**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.  
**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 metal oxide/oxides

### 5.3 Advice for firefighters



## SECTION 5: Firefighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

## SECTION 7: Handling and storage

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker or exposure or environmental releases.

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

No DELs available.

#### PNECs

No PECs available.

### 8.2 Exposure controls

**Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Individual protection measures

**SECTION 8: Exposure controls/personal protection**

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Reference number EN 374. Suitable for short time use or protection against splashes: Butyl rubber/nitrile rubber gloves. (0,4 mm), breakthrough time <30 min. Contaminated gloves should be removed. Suitable for permanent exposure: Viton gloves (0.4 mm), breakthrough time >30 min.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : No special measures required.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Viscous liquid.
- Colour** : Various.
- Odour** : Characteristic.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: >101°C
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Upper/lower flammability or explosive limits** : Not applicable.
- Vapour pressure** : Not applicable.
- Vapour density** : Not available.
- Density** : ~1.4 g/cm<sup>3</sup> [20°C (68°F)]
- Relative density** : Not available.

**SECTION 9: Physical and chemical properties**

<b>Solubility(ies)</b>	: Insoluble in the following materials: water
<b>Partition coefficient: n-octanol/ water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not applicable.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Kinematic (40°C): >0.205 cm <sup>2</sup> /s
<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: No specific data.
<b>10.5 Incompatible materials</b>	: No specific data.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
Tris(2-chloro-1-methylethyl) phosphate	LC50 Inhalation Vapour	Rat	>7 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>630 mg/kg	-
Diphenylmethanediisocyanate, isomeres and homologues	LC50 Inhalation Dusts and mists	Rat	1.5 mg/l	4 hours
	dibutyltin dilaurate	Rat	2071 mg/kg	-

**Conclusion/Summary** : Not available.

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
Diphenylmethanediisocyanate, isomeres and homologues	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	dimethyl glutarate	Rabbit	-	0.1 Milliliters	-
Dibutyltin dilaurate	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	500 milligrams	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-

**Conclusion/Summary** : Not available.

**SECTION 11: Toxicological information****Sensitisation**

**Conclusion/Summary** : Not available.

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Specific target organ toxicity (single exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
Diphenylmethanediisocyanate, isomeres and homologues	Category 3	Not applicable.	Respiratory tract irritation
dibutyltin dilaurate	Category 1	Oral	stomach

**Specific target organ toxicity (repeated exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
Diphenylmethanediisocyanate, isomeres and homologues	Category 2	Inhalation	lungs
dibutyltin dilaurate	Category 1	Oral	stomach

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

**Eye contact** : Causes serious eye irritation.

**Inhalation** : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin contact** : May cause an allergic skin reaction.

**Ingestion** : Irritating to mouth, throat and stomach.

**Delayed and immediate effects and also chronic effects from short and long term exposure****Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Potential chronic health effects**

Not available.

**Conclusion/Summary** : Not available.

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**SECTION 11: Toxicological information**

<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.
<b>Other information</b>	: Not available.

**SECTION 12: Ecological information****12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
dibutyltin dilaurate	Acute EC50 1 to 10 mg/l	Algae	72 hours
	Acute EC50 1 mg/l	Daphnia	48 hours
	Acute LC50 3.1 mg/l	Fish	96 hours

**Conclusion/Summary** : Not available.

**12.2 Persistence and degradability**

**Conclusion/Summary** : Not available.

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
dibutyltin dilaurate	4.44	-	high

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**European waste catalogue (EWC)**

Waste code	Waste designation
08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances

**Packaging** : Completely emptied packagings may be given for recycling. Empty packaging may still contain hazardous residues. Empty packaging should be removed by a licensed waste contractor.

**SECTION 13: Disposal considerations**

European waste catalogue : packaging containing residues of or contaminated by dangerous substances (EWC) (Packaging)

**SECTION 14: Transport information**

	ADR/RID - ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name			
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No	No	No
Additional information	-	-	-

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

**SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**EU Regulation (EC) No. 1907/2006 (REACH)****Annex XIV - List of substances subject to authorisation****[Annex XIV](#)**

None of the components are listed.

**[Substances of very high concern](#)**

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**VOC content (EU)** : VOC (w/w): 0%

**Other EU regulations**

**REACH Information:** : All substances contained in our Products are  
 - preregistered or registered by our upstream suppliers, and/or  
 - preregistered or registered by us, and/or  
 - excluded from the regulation, and/or  
 - exempted from the registration.

**Europe inventory** : Not available.

**SECTION 15: Regulatory information**

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
Diphenylmethanediisocyanate, isomeres and homologues dibutyltin dilaurate	Carc. 2, H351 -	- Muta. 2, H341	- Repr. 1B, H360D (Unborn child)	- Repr. 1B, H360F (Fertility)

**15.2 Chemical Safety Assessment** : This product contains substances for which Chemical Safety Assessments are still required.

**SECTION 16: Other information**

✔ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number

**Full text of abbreviated H statements** : H302 Harmful if swallowed.  
 H314 Causes severe skin burns and eye damage.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H332 Harmful if inhaled.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H335 May cause respiratory irritation. (Respiratory tract irritation)  
 (Respiratory tract irritation)  
 H341 Suspected of causing genetic defects.  
 H351 Suspected of causing cancer.  
 H360FD May damage fertility. May damage the unborn child. (Fertility and Unborn child)  
 H370 Causes damage to organs if swallowed. (stomach) (stomach) (oral)  
 H372 Causes damage to organs through prolonged or repeated exposure if swallowed. (stomach) (stomach) (oral)  
 H373 May cause damage to organs through prolonged or repeated exposure if inhaled. (lungs) (lungs)  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.



**SECTION 16: Other information**

<b>Full text of classifications [CLP/GHS]</b>	<ul style="list-style-type: none"> <li>: Acute Tox. 4, H302</li> <li>Acute Tox. 4, H332</li> <li>Aquatic Acute 1, H400</li> <li>Aquatic Chronic 1, H410</li> <li>Carc. 2, H351</li> <li>Eye Irrit. 2, H319</li> <li>Muta. 2, H341</li> <li>Repr. 1B, H360FD (Fertility and Unborn child)</li> <li>Resp. Sens. 1, H334</li> <li>Skin Corr. 1B, H314</li> <li>Skin Irrit. 2, H315</li> <li>Skin Sens. 1, H317</li> <li>STOT RE 1, H372 (stomach) (oral)</li> <li>STOT RE 2, H373 (lungs) (inhalation)</li> <li>STOT SE 1, H370 (stomach) (oral)</li> <li>STOT SE 3, H335 (Respiratory tract irritation)</li> </ul>	<ul style="list-style-type: none"> <li>ACUTE TOXICITY (oral) - Category 4</li> <li>ACUTE TOXICITY (inhalation) - Category 4</li> <li>ACUTE AQUATIC HAZARD - Category 1</li> <li>LONG-TERM AQUATIC HAZARD - Category 1</li> <li>CARCINOGENICITY - Category 2</li> <li>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2</li> <li>GERM CELL MUTAGENICITY - Category 2</li> <li>TOXIC TO REPRODUCTION (Fertility and Unborn child) - Category 1B</li> <li>RESPIRATORY SENSITIZATION - Category 1</li> <li>SKIN CORROSION/IRRITATION - Category 1B</li> <li>SKIN CORROSION/IRRITATION - Category 2</li> <li>SKIN SENSITIZATION - Category 1</li> <li>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (stomach) (oral) - Category 1</li> <li>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) (inhalation) - Category 2</li> <li>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (stomach) (oral) - Category 1</li> <li>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</li> </ul>
<b>Full text of abbreviated R phrases</b>	<ul style="list-style-type: none"> <li>: R40- Limited evidence of a carcinogenic effect.</li> <li>R68- Possible risk of irreversible effects.</li> <li>R60- May impair fertility.</li> <li>R61- May cause harm to the unborn child.</li> <li>R48/25- Also toxic: danger of serious damage to health by prolonged exposure if swallowed.</li> <li>R20- Also harmful by inhalation.</li> <li>R22- Also harmful if swallowed.</li> <li>R48/20- Also harmful: danger of serious damage to health by prolonged exposure through inhalation.</li> <li>R34- Causes burns.</li> <li>R36/37/38- Irritating to eyes, respiratory system and skin.</li> <li>R43- May cause sensitisation by skin contact.</li> <li>R42/43- May cause sensitisation by inhalation and skin contact.</li> <li>R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</li> </ul>	
<b>Full text of classifications [DSD/DPD]</b>	<ul style="list-style-type: none"> <li>: Carc. Cat. 3 - Carcinogen category 3</li> <li>Muta. Cat. 3 - Mutagen category 3</li> <li>Repr. Cat. 2 - Toxic to reproduction category 2</li> <li>T - Toxic</li> <li>C - Corrosive</li> <li>Xn - Harmful</li> <li>Xi - Irritant</li> <li>N - Dangerous for the environment</li> </ul>	

**History**

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**Notice to reader**

*The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.*



## TECHNICAL DATA – ANCHOR BOLT

# ANCHOR BOLT TECH DATA

## **SUITABILITY SUITABLE FOR:**

Concrete, solid bricks, sand-lime solid bricks, perforated bricks, sand-lime perforated bricks, hollow blocks, natural stone. Etc

For fixing of Windows and door frames made of wood, metal and plastic, wooden battens, squared timber beams .etc

## **DESCRIPTION:**

All- metal sleeve fixings for high lateral force stresses. Very good corrosion protection through aluminum -zinc coated fixing sleeve.

By tightening the metric screw the zinc die-cast cone is drawn into the sleeve and the fixing is expanded without the assembly item being drawn against the building material (important in spacing assembly and already aligned components).

Max torque 5 Nm, with metal and plastic hollow profiles, the snap-in projections on the fixing sleeve produce a tension-resistant and pressure resistant connection



## **ULTIMATE LOADS [Kn] (MEAN VALUES):**

TYPE	F8 S	F10 S	F10 M
Concrete $\geq$ B 25	3.1	5.9	5.5
Solid brick $\geq$ Mz12	3.6	5	5.1
Sand-lime solid brick $\geq$ KS 12	3.6	5	5.1
Solid brick made from lightweight concrete $\geq$ V2	1.0	-	1.9
Sand-lime perforated brick KS 56	1.0	-	2.2

## **TECHNICAL DATA:**

F 8 M- with zinc plated flat mushroom head screw and cross drive recess Z2 Screw head  $\varnothing$  9mm

TYPE	ARC	DRILL (MM)	MIN DRILL HOLE DEPTH WITH ASSEMBLY (MM)	MIN ANCHORAGE DEPTH (MM)	FIXING LENGTH (MM)	MAX FIXING THICKNESS (MM)
F 8 M 72	88660	8	90	30	72	42
F 8 M 92	88662	8	110	30	92	62
F 8 M 112	88664	8	130	30	112	62
F 8 M 132	88666	8	150	30	132	102



# METHOD STATEMENT –CONSTRUCTION & PAINTING



## Construction

### 1.1. Job card:

1.1.1. The job card determines the quality and quantity of all components required for manufacturing the quantity of that particular job card.

### 1.2 Shearing:

1.2.1. Sizes of sheets are determined for shearing.

1.2.2. Quantity required is determined.

1.2.3. Quantities of sheets are sheared as per that particular job card.

### 1.3 Punching:

1.3.1. CNC Turret punching machine is inserted with program which has all the instruction of multi punching as per the drawing in that job card.

### 1.4 Bending:

1.4.1. CNC operated bending machine is fed with a program which has all the instruction of multi bending as per the drawing in that job card requirement.

### 1.5 Welding:

1.5.1. Hinge reinforcement of 4mm thick pre machined are welded on a multi Programmable resistant welder. The machine determines the timing and the Power and is hydraulically operated.

1.5.2. Similarly lock reinforcements, flush bolt reinforcements and Closer reinforcements are welded.

### 1.6 Assembly:

1.6.1. Polyurethane based industrial polyurethane adhesive is sprayed on the both Inner side of the door skin.

1.6.2. Honeycomb is set to expand to fit into the size of the door and treated to Expand and absorb the moisture from the honeycomb allowing only minimum Moisture which is acceptable @4%-5%

1.6.3. The honeycomb is placed in the door and both sheets (top and bottom) are Interlocked. These top and bottom are locked throughout the perimeter of the Length of the door.

1.6.4. One locked the door is placed in the press machine establish contact of the Adhesive with the honeycomb if any voids are left.

1.6.5. This exercise allows even adhesion of the honeycomb on the inner face skins of The steel doors and guarantees exceptional flatness.

1.6.6. Once the adhesion is established the top and the bottom inverted channels are Welded and the doors is completed.

---

## 1.7 . Finishing:

1.7.1. Any weld mark dirt is cleaned up manually.

1.7.2. The doors then are suspended on the conveyor and passes through degreasing Cleaning and phosphate cycle to clean the steel of dirt, grease or any other foreign Particle it may have attracted on it.

1.7.3. After the bath as per 7.2 the doors passes through the oven and dries up completely.

1.7.4. The next station is the powder coating of the zinc primer, done automatically Reciprocator with automatic powder spraying guns.

1.7.5. The primer is baked at about 120\*c and is now ready to take the finish paint powder of any RAL Shade.

1.7.6. The process is repeated except that this time it is just dusted of dirt and powder is sprayed and baked at about 230\*c.

## 1.8. Inspection, Packing and dispatching:

1.8.1. QA/QC randomly checks the doors at any point of time on the production line.

1.8.2. Bar code label is applied which bears the unique opening and read through the scanner which is downloaded on the computer to reconcile with the schedule and shipment.

1.8.3. The finished door is then shrink wrapped with the plastic stretch film.

1.8.4. Two corrugated ply sheets are applied on both sides of the door leaf.

1.8.5. The door is once again shrink wrapped on top and bottom.

1.8.6. Four edge protectors 3 ply corrugated sheets are banded on the door.

1.8.7. The door is ready for dispatch.

## 1.9. Crating:

1.9.1. Doors are palletized in batches of 20nos on pallet.

1.9.2. Two pallets of 20 doors each are permissible to pile one over the other.

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## METHOD STATEMENT- INSTALLATION



- 1) Check the opening size of the door frame.
  - 2) All three sided door frames are fitted with a travel spacer bar at the base. This should be removed prior to installation.
  - 3) Place the frame into the structural opening.
  - 4) Plumb frame and wedge into position ensuring the head member is level.
  - 5) Insert fixing screws and tighten until frame is held in position, recheck alignment and adjust as necessary using shims or spacers between frame and brickwork and then fully tighten fixings.
  - 6) Fix door and ensure it is hanging plumb. Gapes are nominally 3mm at hinge side, 3mm at lock side, and 3 mm at the head.
  - 7) Drill-through remaining holes in the frame and insert anchor bolts.
  - 8) Fix hardware as required. Doors will be prepared for mortised items such as locks but surface mounted items including door closers and panic devices will require site drilling and screwing with self-tapping screws.
  - 9) Apply mastic seal joints between structural opening and the frame.
  - 10) Plastic filler plugs are provided to fit fixing holes if concealed fixing is used, otherwise screws heads are visible.
  - 11) "Touch-up" any minor scratches or damage. Check all hardware to ensure easy and efficient operation.
-





# CERTIFICATE

## Registration Schedule

### Head Office Address

P.O.Box 262078  
Jebel Ali Free Zone  
Dubai  
United Arab Emirates

### Sales Agent



FIRE RATED DOOR SOLUTION  
(FRD BLDG MAT TR LLC.)  
Dubai  
UAE

## Scope

Assessment/ Test Report	Owner of Assessment/ Test Report	Doorset Description	Rating	Test Type
TBWIC/OC033-1 (CNA/F14205)	Petroyas FZE	Petroyas – Honeycomb Core Steel Doorsets – 240	240min	BS 476 Part 22
TBWIC/OC033-2 (CNA/F14211)	Petroyas FZE	Petroyas – Rockwool Core Steel Doorsets – 240	240min	BS 476 Part 22
TBWIC/OC033-3 (CNA/F14210)	Petroyas FZE	Petroyas – Fully Glazed Steel Doorsets – 90	90min	BS 476 Part 22