

Doors and Frames





Since the Dongbang Novoferm Inc. is founded in 1957, we have been in the business of manufacturing quality hollow metal products for the building and construction industry.

During that time, The Dongbang Novoferm Inc. has earned, its reputation for the best quality and top performance throughout the residential, commercial, industrial and institutional construction market through reliable performance for many years.

- O Fire Labeled Steel Door
- Acoustic Door
- Energy Saving Door





 Fire Rated Glass Door Dongbang Zenith GL



O Disabled Door (Balance type)
Dongbang **Eldor**



O Sliding Door Dongbang Smoode



Fire Rated Wooden Door Dongbang **Zenith**

Certificate



O UL

- 1. Door & Window Frames, File No. R10522
- 2. Pair & Single Swing Hollow-Metal Type Swing Fire Door, 1 1/2hr File No. R18674
- 3. Pair & Single Swing Hollow-Metal Type Swing Fire Door, 2hr File No. R18674
- 4. Pair & Single Swing Hollow-Metal Type Swing Fire Door, 3hr File No. R18674
- Pair & Single Swing Hollow-Metal Type Swing Fire Door, UL Canada Certificate No.051110-R19674, Report Reference No. R18674



n **E** 2

BS (Warrington Fire Research consultance Testing)

- Fire Resistance Test in Accordance with BS 476: Part 22: 1987, Clause 8 on Two Single-Acting, Single-Leaf Steel Doorsets, 2hr, WARRES No. C68110
- 2. Fire Resistance Test in Accordance with BS 476: Part 22: 1987, Clause 8 on a Single-Acting, Double-Leaf Steel Doorsets, 1 1/2hr, WARRES No. C68109



O ANSI 250.4

Hollow-Metal Door & Fire Door Frame, No. AU10074031-1 Twist Test / Cycle Test - 1,000,000 Cycles



GOST (Russia)

- 1. Single Swing Hollow-Metal Type Swing Fire Door, 1hr, No.001.B05914
- 2. Pair Swing Hollow-Metal Type Swing Fire Door, 1hr, No.001.B05915



Middle East

- 1. Fire Rated Steel Door, No.9/2006 (Kuwait Governmental authorization)
- 2. Swing Type Fire Door, No. PS-21124-PA (Qatar Governmental authorization)



KS (Korean Standard)

KS F 3109 Door Sets, No. 99-0856 Fire Resistance Test in Accordance with KS F 2268-1, 1hr, 2hr

ISO 9001

O ISO 9001

ISO 9001, No.QSC80914

Material

Material	Specification	Usage and Application
Cold Rolled Steel	ASTM A1008, A568, A569, KS D 3512	Interior Doors
Electro Galvanized Steel	ASTM A591, KS D 3528	Interior & Exterior Doors
Galvannealed Steel	ASTM A653, KS D 3520	Exterior & High Humidity Location
Stainless Steel	ASTM A167, A176, KS D 3698	Interior & Exterior Doors

Product Selection Guide

		Minimum Steel Thickness						
Model	Туре	Door			Frame			
		Min. THK	MSG	DB STD (mm)	Min. THK	MSG	DB STD (mm)	
Level - 1	Full Flush	0.8	20	1.0	0.8	20	1.0	
Standard Duty	Seamless	0.8	20	1.0	0.8	20	1.0	
Level - 2	Full Flush	1.0	18	1.2	1.0	18	1.2	
Heavy Duty	Seamless	1.0	18	1.2	1.0	18	1.2	
Level - 3	Full Flush	1.3	16	1.6	1.3	16	1.6	
Extra Heavy Duty	Seamless	1.3	16	1.6	1.3	16	1.6	
	Stile and Rail	1.3	16	1.5	1.3	16	1.5	
Level - 4 Maximum Duty	Full Flush	1.7	14	2.0	1.7	14	2.0	
	Seamless	1.7	14	2.0	1.7	14	2.0	

Conversion Table

MSG	Minimum Thickness			Conversion		
	Inch	mm	mm(Min.)	Inch	Decimal	mm
4	0.214	5.436	5.4	1	1.000	25.40
5	0.199	5.055	5.1	15/16	0.937	23.80
6	0.184	4.674	4.7	7/8	0.875	22.23
7	0.167	4.242	4.2	13/16	0.812	20.62
8	0.152	3.861	3.9	3/4	0.750	19.05
10	0.123	3.124	3.1	11/16	0.687	17.45
12	0.093	2.362	2.4	5/8	0.625	15.88
14	0.067	1.702	1.7	9/16	0.562	14.27
16	0.053	1.346	1.3	1/2	0.500	12.70
18	0.042	1.067	1.1	7/16	0.437	11.10
20	0.032	0.813	0.8	3/8	0.375	9.53
22	0.026	0.660	0.7	5/16	0.312	7.92
24	0.020	0.508	0.5	1/4	0.250	6.35
26	0.016	0.406	0.4	3/16	0.187	4.75
28	0.013	0.330	0.3	1/8	0.125	3.18
				1/16	0.062	1.57

Fire Labeled Steel Doors

Doors

Dongbang Novoferm's fire labeled steel doors are 1 3/4"(45mm) in thickness and are available in 1.6mm or 1.2mm steel sheets. Door skins are mechanically interlocked vertically along the hinge and lock edge. Door edges are bevelled 1/8"(3mm) in 2"(50mm) and door surfaces are flush, welds or seams. All standard doors are manufactured from galvannealed steel and are prepared and reinforced to receive spcified architectural hardware in accordance to ANSI A115 Standards.

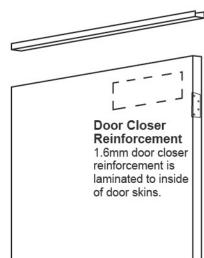
Fire Labels:

Dongbang Novoferm's fire labeled steel doors are approved by both Underwriters Laboratories (UL) and Warrington fire research(BS) Fire Labelling Programs. Fire labeled steel doors must be installed with an equivalent fire labeled frame with approved fire listed hardware. For fire labelling restrictions and limitations refer to the Fire Labelling Guide for Steel Door.





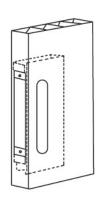




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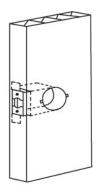
Top Channel

1.2mm inverted end channel is spot welded to door skins and tack welded at each corner of the door for extra rigidity.



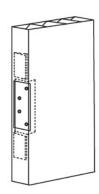
Mortise Lock Prep Goverment Series 86 edge door prep is

reinforcement with a 1.6mm reinforcement box to help hold mortise lock in its proper position in accordance to ANSI A115.1 requirements. 2-3/4"(70mm) backset



Cylindrical Lock Prep Government Series 161

Cylindrical Lockset door prep is equipped with 1.6mm reinforcement and an added barrel support spot welded to the edge of the door in accordance to ANSI A115.2 requirements. 2-3/4" (70mm) backset



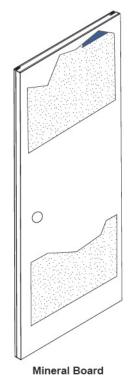
Hinge Reinforcement 3.5mm high frequency

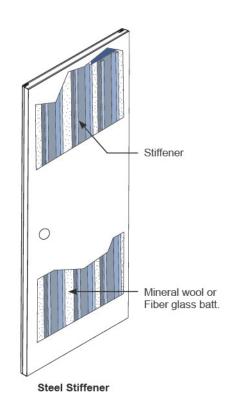
hinge reinforcement with return bend for added strength.

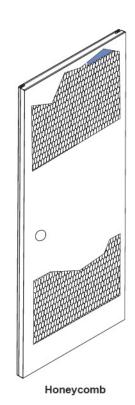


1.2mm inverted end channel is spot welded to door skins and tack welded at each corner of the door for extra rigidity.

O Cores







Fire Labelling Guide for Steel Doors

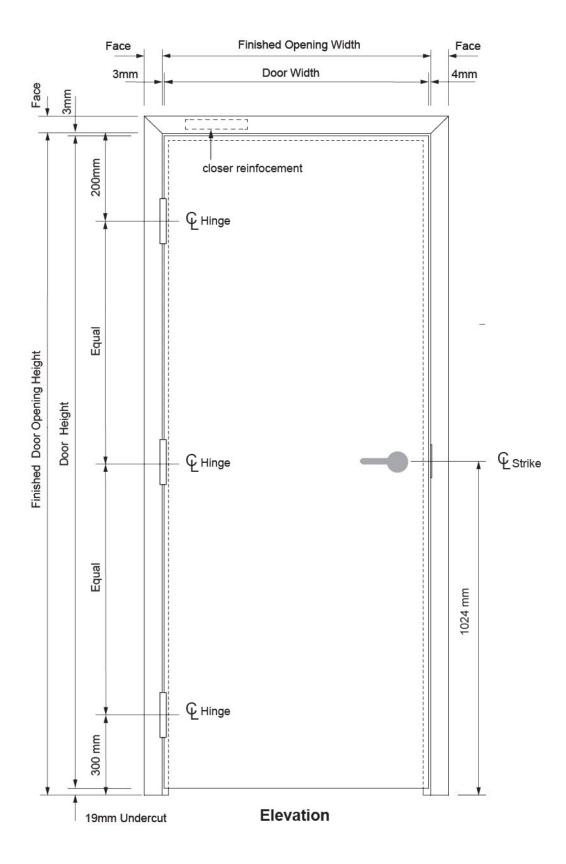
Label)



F2	2940	P	PS	(UL Label)	inch				
Туре	Elevation	Min. THK.	Max. Nominal Door Sizes	Available Rating	Notes				
Flush		1.2mm	48" X 115" (1214mm X 2910mm) Single	1 1/2hr					
Flush		1.2mm	96" X 115" (2432mm X 2910mm) Double	1 1/2nr					
Flush		1 2 222	42" X 95" (1070mm X 2414mm) Single	2hr					
Flush		1.2mm	84" X 95" (2140mm X 2414mm) Double	2nr					
Flush		1.2mm	46" X 93" (1165mm X 2350mm) Single	3hr					
Flush		1.211111	92" X 93" (2330mm X 2350mm) Double						
	1.6mm					1 6 22 22	48" X 115" (1214mm X 2910mm) Single	1 1/2hr	Glass area 600mm X 600mm
Glass		96" X 115" (2428mm X 2910mm) Double	1 1/2nr	Glass area outrilli A outrilli					
Lights		1.0mm	48" X 91" (1214mm X 2310mm) Single	1 1/2hr	Glass area 600mm X 600mm				
		1.011111	96" X 91" (2428mm X 2310mm) Double		300mm X 1000mm				

Fire Labeled Steel Doors

Standard Hardware Location

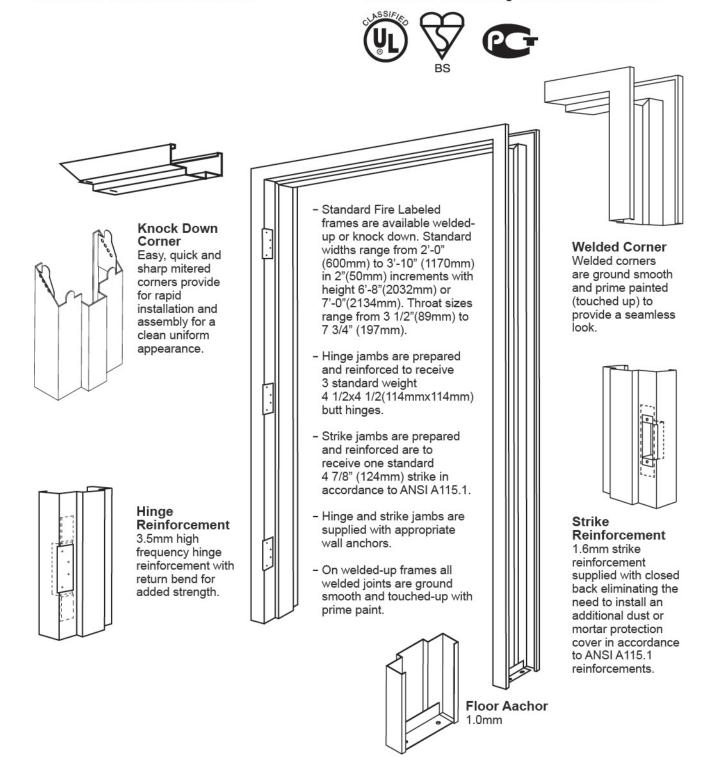


Frames

Dongbang Novoferm's manufactures full range of a Fire Labeled Steel Frames of standard sizes and profiles to custom sizes and profiles. Steel frames are available in 1.6mm for 1 3/4"(45mm) doors. All standard frames are manufactured from galvannealed steel and are prepared and reinforce to receive specified architectural hardware in accordance to ANSI A115 Standards.

Fire Labels:

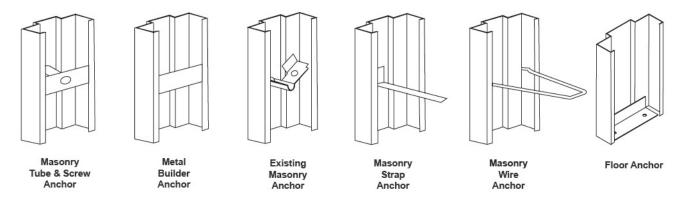
Dongbang Novoferm's fire labeled steel frames are approved by both Underwriters Laboratories (UL) and Warrington Fire Research(BS) Fire Labelling Programs. Fire Labeled steel frames must be installed with an equivalent fire labeled door with approved fire listed hardware. For fire labelling restrictions and limitations refer to the Fire Labelling Guide for Steel Frames.



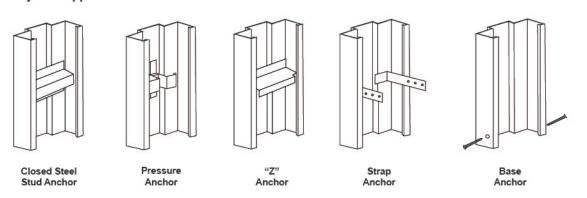
Fire Labeled Steel Doors

Anchors

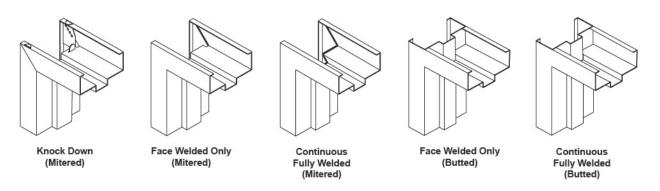
Masonry Wall Applications



Dry Wall Applications



Corner Details



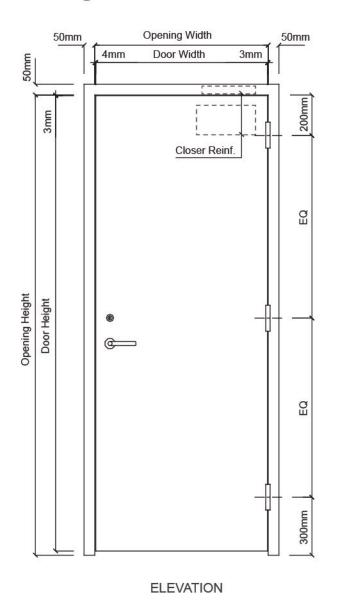
Fire Labelling Guide for Steel Frames

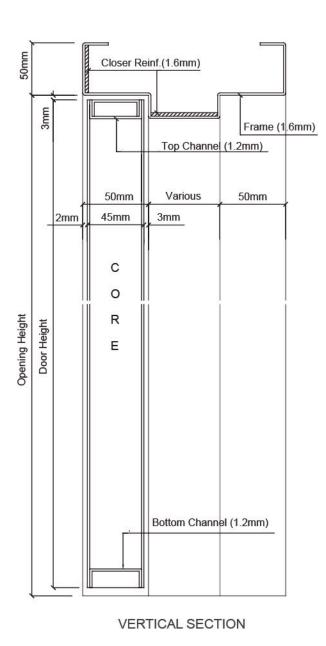
		ueto a		(OL Label) Listi	10.11N307200
Туре	Elevation	Min. THK.	Max. Nominal Frame Sizes	Available Rating	Notes
Basic Frames		1.2mm	52" X 118" (1321mm X 3000mm) Single 100" X 118" (2538mm X 3000mm) Double	2 hr 1 1/2 hr 3/4hr	For Drywall or Masonry Openings. Available Knock Down or Welded Up.

0063-1-1-S0902

FIRE DOOR FRAME

O Drawing





Prame (1.6mm)

Door Face Sheet (1.2mm or 1.6mm)

C O R E

4mm Door Width 3mm
Opening Width 50mm

HORIZONTAL SECTION

Thick Rebated Door

Dongbang Zenith

"Here we offer Your Building the value Added Elegance!"

Dongbang Zenith is a synonym of masterpiece door products providing the outstanding performance and graceful appearance.







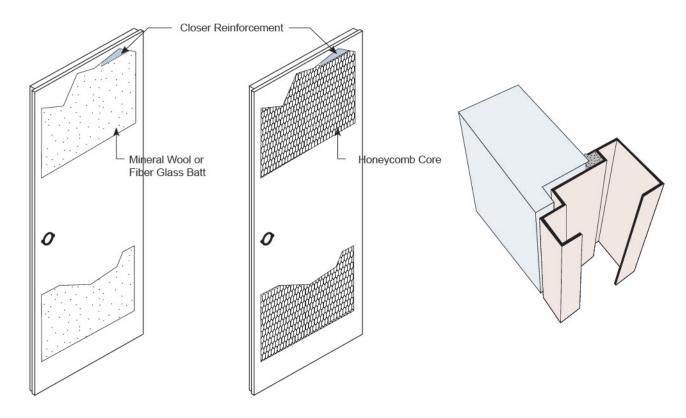








Door Construction



O Zenith 2.5D Pocket Hinge

"Innovative conceales ball-bearing technology"



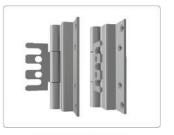
Loading capacity each hinge 120Kg



Adjustable



Innovative concealed ball-bearing trchnology



- 200,000 cycles test on 160Kg door
- Life time guarantee
- EN1935 Class 11

Door Sealing Rebated Door

Bongbang **Zenith** II

"Dual Gasket construction Provides the Excellence of Sealing Performance!"

Dongbang ZenithII products of excellence come with the highest level of sealing performance.













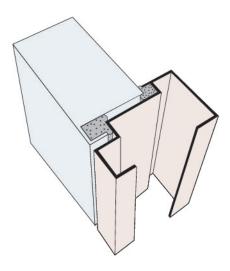
O Door Construction

Zenith









Feature

- Noise, condensation and heat loss caused by draft gushing in between the doors and door frames are perfectly interrupted with the outstanding sealing performance.
- Dual gasket installed with Dongbang ZenithII Door product completely interrupts the harmful gases which may come through the doors and door frames in the event of fire accident.

Purpose

- ZenithII Door are specified when better soundproof, better airtight and better security are required
- Zenith door leaf rebated on 3 or 4 sides is 45mm thick. Either one or two securing pins prevent the door leaf from bending
 out in the case of fire, double rubber gasket improve sound proof and airtight which is very effective energy savings.

Fire rated Glass Door

:: Dongbang **Zenith**GL

"keeps the Safety at Invisible Spots!"

The definition of safety in daily living becomes totally different as you live with the Fire Rated Glass Door. The Dongbang novoferm's Zenith Fire Rated Glass Door as processed by the in-house technology are made with the special fire protecting glass of best quality, which is capable to interrupt the flame for over 1 hour in the event of fire accident while safekeeping the transparency for long period of time allowing people on the fire spot safely evacuate.







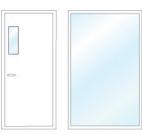


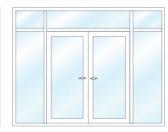


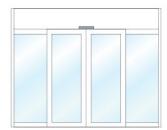
Designs







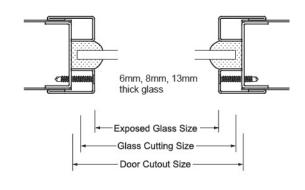




Specification

Spec.	Detail	Remark	
Steel Thickness	SUS 1.2T / ST'L EG 1.6T		
	2000mm(W) X 3000mm(H)	Fixed Windows	
Frame Max Size	1200mm(W) X 2400mm(H)	Single Door	
Frame Max. Size	2200mm(W) X 2500mm(H)	Double Door	
	3000mm(W) X 2700mm(H)	Double Auto	
Glass Thickness	8mm		
Glass Weight	21Kg/m ² ±0.5		
Glass Color	Extra Clear		
Light transmission	88.60%		

Glazing Type











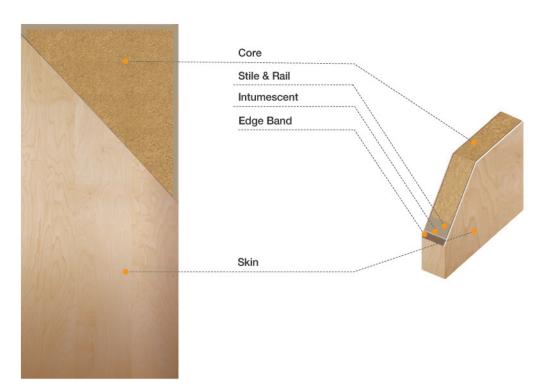


Dongbang **Zenith**

"Elegant Living Space, Dongbang Novoferm's door offers the Safety with Beauty!"

Dongbang novoferm's Fire Rated Wooden Door products are made with the fire protecting core of environmental friendly materials, providing the non-heat isolating, fire protecting performance for $20min \sim 1$ 1/2hour even employing the wooden finish.

O Door Construction



Frame Profiles



Skin

- Wood Veneered Door
- Hardboard Door
- Plastic Laminated Door

Fire Reistance Performance

- 20min
- 45min
- 1hr
- 1 1/2hr

Dongbang Smoode

"Ease of Light Sliding Action, convenience for Everyone!."

Dongbang Smoode Sliding Door offers the maximum space utilization with the minimal dead space, which is a sloped rail type sliding door provided with convenience and smooth sliding action. Just a little bit of force is required to open and close the door offering convenience to patients, children, senior citizens, and everyone, which is most appropriate for applications at the hospitals, welfare facilities, and nursing homes for senior citizens.



Feature

Silence

The unique roller as designed and developed using the special materials allows the door automatically closed thanks to the sloped rail reducing the opening & closing noise below 45dB.

The hydraulic breaking device minimizes the noise produced from the door striking to door frame during the closing of door by regulating the self closing speed.



Smoode Noise: 45dB

Smooth

As manufactured with the door opening force below 6.5N for 40kg weighing door, even the patients, children and elderly persons are able to open the door with ease smoothly.



Smoode Opening Force: 6.5N

Safety

- · Hydraulic breaking device safely regulates the door closing speed.
- Rubber gaskets preventing impact on door/door frame and getting fingers caught in the pocket section are provided to
 prevent the accident in advance.
- No presence of rail on the bottom allows convenience and safety of passages for wheel chairs, medical devices & equipments, patient beds and other stuffs at those locations like hospitals.
- HOLD OPEN Feature Offering Safety and Convenience.

Smoode Type

Pocket Type	Single	Double	
Double Pocket			
None			
None	U L		
Single Pocket			
Single Pocket			

Dongbang Eldor

"Simply open with Light Force to Automatically closes after Passage!"

Dongbang Eldor product is developed making the best use of those advantages of conventional swing door and sliding door as well as supplementing the disadvantages, which provides the outstanding convenience of passages for wheelchairs requiting the minimal space.

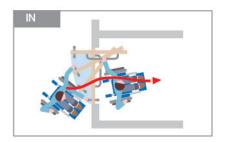
Dongbang Eldor is most suitable for doors at disabled persons for its convenience and comfort of use, and as well appropriate for entrance/exit doors for hospital rooms and welfare facilities.

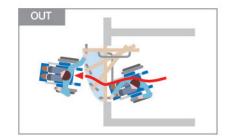


Feature

Safety

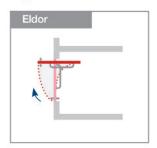
Dongbang Eldor product works like avoiding the passing persons when opening & closing the door.

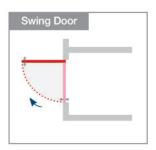


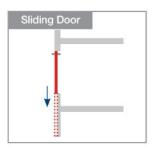


Dongbang Eldor has no rail component on the bottom surface offering the convenience and safety for passages of wheelchairs, patients, elderly and weak persons, and prevents the risk of potential accidents in advance by installing the impact preventing rubber gaskets at both corners of door frames. The pulling type Lever Handle prevents the unexpected opening of door by negligence.

Only Bit of Small Space Required



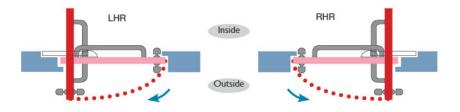




Convenience

Automatic Closing after Opening with Light Force.

Handing



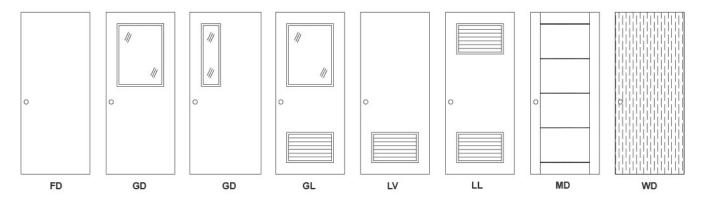
Standard

Doors

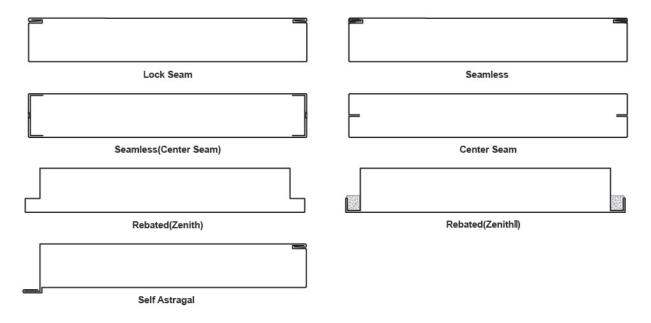
Steel Thickness

0.8mm, 1.0mm, 1.2mm, 1.6mm

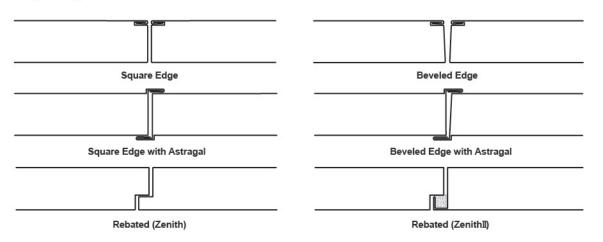
Door Designs



O Door Profiles



O Meeting Edge - Double Door

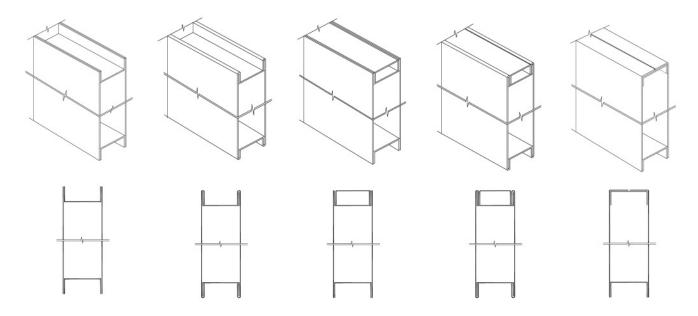


Edge

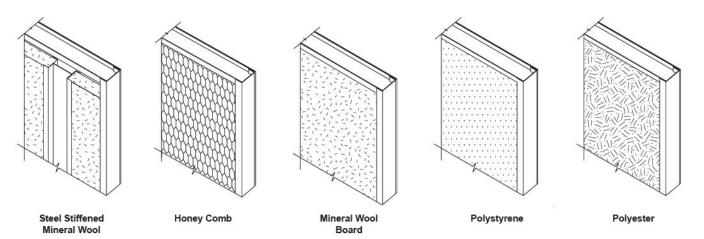
- Square Edge 90° to the face
- Beveled Edge beveled 3.2mm/50.8mm

Square Edge		Beveled Edge	
	=		목

O Top & Bottom Edge Details



O Cores



O Door Finishing

- Powder Coating
- Primer Coating

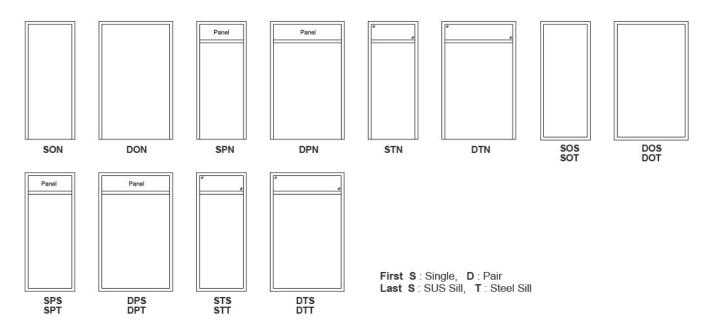
Standard

:: Frames

Steel Thickness

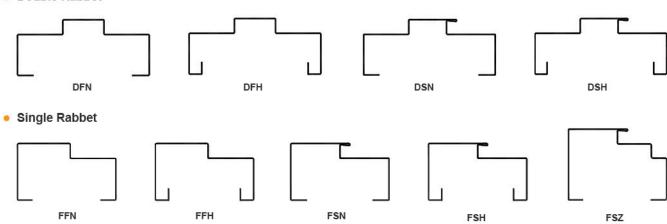
1.6mm, 2.0mm

Frame Designs



Frame Profiles

Double Rabbet



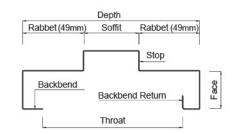
Cased Open



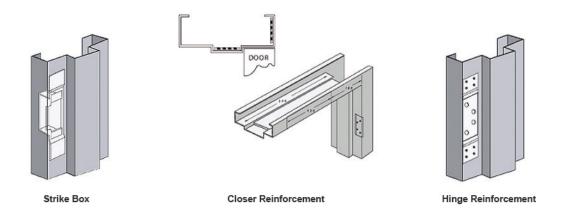
Standard Jamb Size

Jamb Depth Jamb Depth

Frame Components

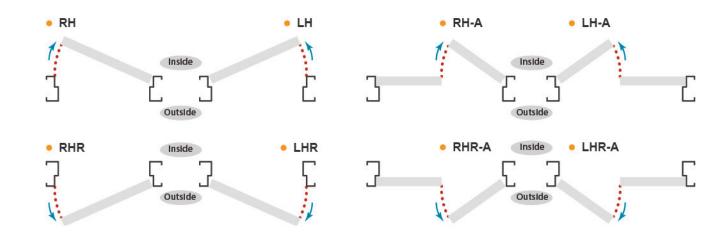


Hardware Preparation



- Frame Finishing
 - Primer Coating

Door Handing





BD-T300D Standard Size 1400mm(W) x 2400mm(H)



BD-T302D Standard Size 1400mm(W) x 2400mm(H)



BD-T303D Standard Size 1400mm(W) x 2400mm(H)



BD-T673D Standard Size 1400mm(W) x 2400mm(H)



BD-T674D Standard Size 1400mm(W) x 2400mm(H)



BD-S201D Standard Size 1400mm(W) x 2400mm(H)



BD-S653D Standard Size 1400mm(W) x 2400mm(H)



MS-S365D Standard Size 1400mm(W) x 2400mm(H)



MD-C672 Standard Size 1000mm(W) x 2100mm(H)



MC-S690 Standard Size 1000mm(W) x 2100mm(H)



MC-S642 Standard Size 1000mm(W) x 2100mm(H)



MC-T670 Standard Size 1000mm(W) x 2100mm(H)



MD-T671 Standard Size 1000mm(W) x 2100mm(H)



MD-S687 Standard Size 1000mm(W) x 2100mm(H)

 $^{^{\}star}$ The color of image may be different from actual product.



MD-S235 Standard Size 1000mm(W) x 2100mm(H)



MD-S233 Standard Size 1000mm(W) x 2100mm(H)



MD-S314 Standard Size 1000mm(W) x 2100mm(H)



MD-S407 Standard Size 1000mm(W) x 2100mm(H)



MD-S428 Standard Size 1000mm(W) x 2100mm(H)



MD-O445 Standard Size 1000mm(W) x 2100mm(H)



MD-S243 Standard Size 1000mm(W) x 2100mm(H)



MD-M211 Standard Size 1000mm(W) x 2100mm(H)



MD-S193 Standard Size 1000mm(W) x 2100mm(H)



MD-S221 Standard Size 1000mm(W) x 2100mm(H)



MD-S219 Standard Size 1000mm(W) x 2100mm(H)



ME-S251 Standard Size 1000mm(W) x 2100mm(H)

 $[\]ensuremath{^{\star}}$ The color of image may be different from actual product.



FC-G736 Standard Size 1000mm(W) x 2100mm(H)



FC-G734 Standard Size 1000mm(W) x 2100mm(H)



FC-G737 Standard Size 1000mm(W) x 2100mm(H)



FC-G735 Standard Size 1000mm(W) x 2100mm(H)



FC-G679 Standard Size 1000mm(W) x 2100mm(H)



FC-G681 Standard Size 1000mm(W) x 2100mm(H)



FD-G312 Standard Size 1000mm(W) x 2100mm(H)



FD-G139 Standard Size 1000mm(W) x 2100mm(H)



FE-G249 Standard Size 1000mm(W) x 2100mm(H)



FD-G079 Standard Size 1000mm(W) x 2100mm(H)



FE-N019 Standard Size 1000mm(W) x 2100mm(H)



FC-G748 Standard Size 1000mm(W) x 2100mm(H)

^{*} The color of image may be different from actual product.



FD-N100 Standard Size 1000mm(W) x 2100mm(H)



GD-N101 Standard Size 1000mm(W) x 2100mm(H)



LV-N100 Standard Size 1000mm(W) x 2100mm(H)



GD-N102 Standard Size 1000mm(W) x 2100mm(H)



GD-N100 Standard Size 1000mm(W) x 2100mm(H)



GD-N105 Standard Size 1000mm(W) x 2100mm(H)

Plant

- Vinashin Dockyard, Vietnam
- Pilay Thermoelectric Power Plant, Vietnam
- Shanghai Epson Factory, China
- Hapur Thermoelectric Power Plant, Bangladesh
- Attahaddy Gas Plant, Libya
- Sakhalin LNG Plant, Russia
- Dubai Plant Terminal, UAE
- Kaluga Samsung LCD Factory, Russia
- Moscow Pilot 4 PJT, Russia
- Olympia PJT, Kuwait
- Tripoli Sarir Power Plant, Libya
- Plant Terminal, Mexico
- Kearl Oil Sands, Canada
- Hyundai Mobis, Diamos, Motor, Brazil

Public Institution

- Incheon International Airport, Korea
- Parliament Buildings, Korea
- The National Digital Library of Korea, Korea
- Yongsan-g Office, Korea
- Sungdong-gu Office, Korea
- Sungnam City Office, Korea
- Korea Embassy in Moscow, Russia

Hotel

- Grand Hyatt Hotel, Korea
- Hotel Shilla, Korea
- Sheraton Walker Hill, Korea
- InterContinental Hotels Seoul, Korea
- Novotel Ambassadors Hotel, Korea
- Riverside Hotel, Korea
- Park Hyatt Hotel, Korea
- Guam Dai-Ichi Hotel, USA
- Rwanda Intercontinental Hotel, Angola
- Hanoi Marriot Hotel, Vietnam





- 63 City, Korea
- Asem Tower, Korea
- Star Tower, Korea
- Hoam Art Hall, Korea
- I Park Tower, Korea
- LG Art Center, Korea
- Headquarter of Samsung, Korea
- Headquarter of Hyundai, Korea
- Lotte Department Store in Moscow Russia
- Astana Media Center Kazakhstan
- Esentai Shopping Mall, Kazakhstan
- Hanoi Land Mark Tower, Vietnam
- Doha Convention Center, Qatar

Residence

- Tower Palace, Korea
- Pilay Thermoelectric Power Plant, Vietnam
- Haewoondae I-Park, Korea
- Dongchun Raemian, Korea
- Yongsan Park Tower, Korea
- Bundang Venture Town, Korea
- Tashkent High Vill Apartment, Kazakhstan

Hospital

- Pusan National University Hospital, Koreaa
- Severance Hospital, Korea
- Seoul National University Hospital, Korea
- Asan Medical Center, Korea
- Jeju National University Hospital, Korea
- SMG-SNU Boramae Medical Center, Korea













"Advanced Technology for Door"





Novoferm GmbH.

Novoferm GmbH.(Germany), which is one of the largest door manufacturer in Europe and has the total of 16 corporations within Europe. They' re holding more than 2,400 staffs currently, the company has the No.1 share in the European steel door & window market in each field of household use, fireproof, crime prevention, garage use and commercial uses.







Sanwa Shutter Corp.

Sanwa Shutter Corp. is the world's largest door manufacturer which has 9 corporations with more than 7000 staffs in Japan and 11 overseas corporations including Overhead Door Corp. which is the world's largest garage door manufacturer based in the USA.

















We make the best

Dongbang Novoferm Inc.

Head Office

Add. 15, Seoulsiripdae-ro, Dongdaemun-gu, Seoul, Korea

Tel. 82-2-2212-6442 Fax. 82-2-2247-5695

E-mail. overseas@steeldoor.com











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