

COMPREHENSIVE RANGE OF

Fire doors



HART
BUILDING PRODUCTS PTE. LTD.



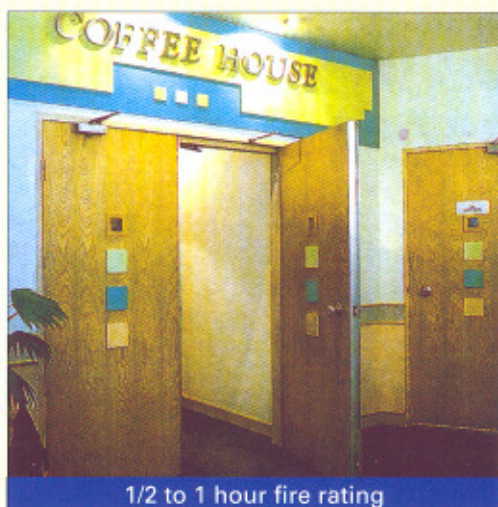
HART range of Fire Rated Doors

'HARTY' TH series composite timber doors

Available in 1/2 to 1 hour rating, the doors are tested in accordance with ISO and Singapore Standard SS 332, 1998. HARTY composite timber doors are suitable for use in offices, hotels, hospitals, schools, condominiums and apartments etc.

Construction:

The door leaves are flush faced, lined internally with high density proprietary infill with mill finished timber ply on both sides as standard. Further finishing on door leaf/leaves and vision panels etc. are optional.



1/2 to 1 hour fire rating

All doors are supplied complete with pressed steel or timber frames, single or double rebated. Other hardware like stainless steel hinges, selected lock sets and flush bolts etc are provided as a standard package unless otherwise specified.



2 to 4 hour fire rating

'HARTY' TC series composite timber doors

Available in 1 to 4 hour rating, the doors are tested in accordance with Australian standard AS 1530 part 4: 1975 (including minimum 30 minutes of insulation). TC range of fire doors are widely used for offices, hotels, hospitals, schools, residential apartments etc. where higher fire rating requirements and durability of the doors are called for.

Construction:

The door leaves are flush faced, lined internally with high density, calcium silicate panels laminated together as a solid core with mill finished timber ply on both sides as standard. All doors are supplied with pressed steel frames and compatible hardware like stainless hinges and selected lock sets etc. as a standard package unless otherwise specified.

'HARTY' SH series mild steel and stainless steel doors

Available in 1/2 to 4 hour rating, the doors are tested in accordance with ISO and Singapore Standard SS 332, 1988, as well as British Standard BS 476 part 22, 1976.

HARTY SH series doors are used mainly in offices, factories, warehouses, oil and gas plants and marine industries etc. where high durability and weather resistant are needed.

Construction:

The doors leaves are flush faced mild steel or stainless steel finish, internally supported with rigid steel stiffeners to enhance the overall rigidity and strength of the doors. Frames are made of pressed steel formed to the required sizes with single or double rebate.



HARTY SH series steel doors are the only 4 hour fire rated steel door in the market that have been tested with vision panel. Recommended size for the vision panel is 150mm in width and 300 mm in height.



1 to 4 hours heavy duty

'HARTY' FRS series fire rated roller shutters

Available up to 4 hour rating, the shutters are tested in accordance to BS476, Part 22: 1987 Section 8, with assessment for application of shutter sizes up to 7m(W) x 7m(H). The shutters are widely used in factories, warehouse, commercial buildings and complexes etc.

Construction:

Shutter slats and guides are made of high strength mild steel of various thickness. Bottom bars are constructed from 50 x 50 x 4mm thick mild steel angles. Drive barrels are made of high grade steel tubes supported firmly by heavy duty steel end plates.

Motorised and manual mode of operations for the shutters are available.



1 to 4 hours shutters

'HARTY' Durasteel hinge and sliding doors

Durasteel range of doors offers an alternate heavy duty products to the HARTY doors. Manufactured under an exclusive license with Cape Durasteel in United Kingdom, the doors are tested and certified up to 4 hour fire resistance in accordance with BS 476 part 8 / 22, 1976. These doors are used widely in warehouses, plants, hangers, tunnels where absolute reliability and durability of the doors are required.

Construction:

The door leaves, constructed with 2 layers of Durasteel 3DF2 panels framed with perimeter metal channels welded, will offer the highest integrity against impact, moisture, rodent and fungus attack. All hinged doors are supplied complete with metal channel frames, pair of metal hinges and 3 way shoot bolts. All sliding doors are supplied complete with metal tracks,

side frames, drop weights, wire ropes and fusible link (operable at 68 deg celcius).

'HARTY LBJ' acoustic doors

Available in different construction formats to meet the various sound insulation requirements, features typically include:-

- a) fixed frame
- b) weld on hinges
- c) lockable fasteners
- d) internal panic release
- e) peripheral compression seal

Typical application include test cells, control rooms, boiler rooms, generator rooms, fan chambers, chiller rooms and lift rooms.

Acoustic Door Performance Data

Expressed in terms of Sound Reduction Index (SR1)

Door Type	Hz	125	250	500	1K	2K
1. VAC 50, single leaf	dB	19	35	41	39	43
2. VAC 50, double leaf	dB	17	32	39	37	39
3. VAC/D, single leaf	dB	25	42	44	49	52
4. VAC/D, double leaf	dB	23	41	42	48	50



Notes:

(a) VAC 50 - 50mm thick door panel, single seal

(b) VAC/D - 100mm thick door panel, double seal

Above figure relate to nominal door sizes of:

Single : 800mm W x 2000mm H

Double: 1700mm W x 2000mm H

Maximum approved overall sizes for HARTY range of fire rated doors:

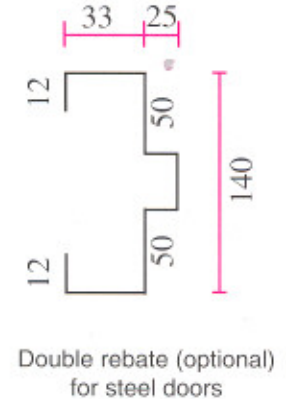
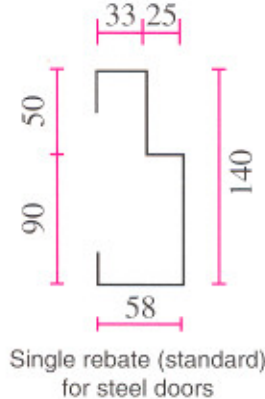
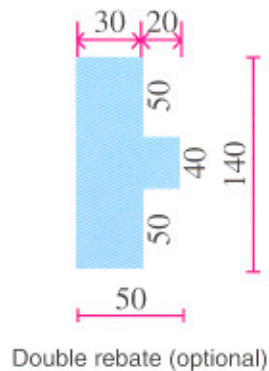
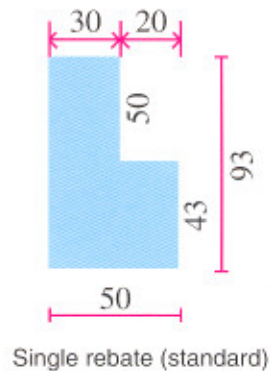
Types	Width(mm)	Height(mm)
TH & TC series	2400	2400
SH series	2400	2400
Duraslide	5000	5000
Duraflash	2200	2450
FRS	7000	7000

N.B. Oversized doors bigger than above are available on request

Approved door frames profiles available for HARTY TH, TC and SH series of doors:

A) Timber frames - using Kapur timber or other approved equivalent

B) Pressed steel frames - 1.5mm mild steel



N.B. (a) Timber frames are approved only for 1/2 and 1 hour rated doors

(b) Detailed specifications of the full range of HARTY TH, TC, SH and Durasteel doors are available on request.

Other optional Products:

At Hart, we manufacture also a wide range of other non fire rated timber hollow and solid flush and decorative doors. Non fire rated mild steel and stainless steel doors and special purpose vinyl laminated steel doors are also available on customers request.



COFFEE

HART'S VINYL LAMINATED STEEL DOOR

Typical Types of Lamination



ELGIN MARBLE



BURMESE
RIVER TEAK



ANTIQUE ROSE



WINE



LIMED AMERICAN
OAK



SAPELE



WHITE OAK



RED OAK



KOTO



ASH



LACQUERED PLY

Typical Timber Doors (non-rated)



HART'S Vinyl Laminated
Steel Door

HARTY DOORS SELECTION CHART

Models	TH series	TC series	SH series	Duraflash	Duraslide	FRS
Fire rating	1/2 & 1	1 to 4	1/2 to 4	1 to 4	1 to 4	1 to 4
Testing Standards						
SS332	x		x			
AS 1530		x				
BS 476 part 22			x	x	x	x
Construction						
S/L swing	x	x	x	x		
D/L swing	x	x	x	x		
Sliding/drop/ shutter				x	x	x
Facings						
Timber	x	x				
Metal	x	x	x	x	x	x
Finishes						
Priming/ Painting(opt)	x	x	x	x	x	x
Plastic Laminate(opt)	x	x				
Timber molding(opt)	x	x				
Accessories						
Vision panel	x	x	x			
Weather/acoustic seal (opt)	x	x	x			

opt: denotes optional

x: denotes available

For more details of Harty FRS fire rated roller shutters,
Please refer to the relevant catalogue.

FRS
DOORS