



# COMMERCIAL STEEL AND ALUMINUM SECTIONAL DOORS



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most demanding  
specifications.”*



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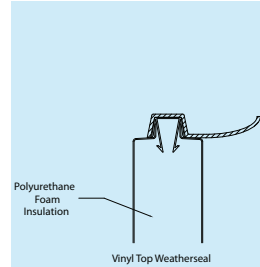


# Commercial Insulated Sectional Doors

Haas Door foamed-in-place polyurethane insulated doors (**THERMAPRO™**, **HAAS THERM™** and **MISERTHERM™**) combine the strength of steel construction with the energy efficiency of a polyurethane foam core.

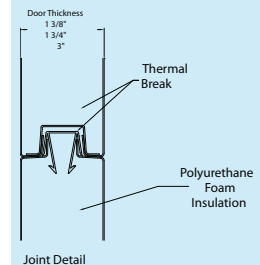
## THERMAPRO™

Thermapro™ insulated sectional doors are 3" thick with pressure injected CFC-free polyurethane foam with a calculated R-value of 25.8. Model CHT-850 has tempered aluminum face sheets with 24-gauge stucco texture with V-grooves on the exterior and interior faces. Model CHT-832 has galvanized steel face sheets with a 20-gauge flush smooth surface on the exterior face and a 26-gauge woodgrain texture with V-grooves on the interior (20-gauge is optional on the interior). Model CHT-816 has galvanized steel face sheets with 26-gauge woodgrain texture with V-grooves on the exterior and interior faces. Section joints are tongue-and-groove for wind resistance. Sections have 16-gauge steel end stiles and full vertical steel back-up plates for increased strength and solid face hardware attachment points.



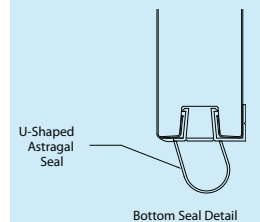
## HAAS-THERM™

Haas-Therm™ insulated sectional doors are 1-3/4" thick with pressure injected CFC-free polyurethane foam with a calculated R-Value of 16.18. Model CHT-750 has tempered aluminum face sheets with 24-gauge stucco texture with V-grooves on the exterior and interior faces. Model CHT-732 has galvanized steel face sheets with a 20-gauge flush smooth surface on the exterior face and a 26-gauge woodgrain texture with V-grooves on the interior (20-gauge is optional on the interior). Model CHT-716 and CHT-712 have galvanized steel face sheets with 26-gauge woodgrain texture with V-grooves on the exterior and interior faces. Section joints are tongue-and-groove for wind resistance. Sections have 16-gauge steel end stiles (optional on some models) and full vertical steel back-up plates for increased strength and solid face hardware attachment points.



## MISER-THERM™

Miser-Therm™ insulated sectional doors are 1-3/8" thick with pressure injected CFC-free polyurethane foam with a calculated R-Value of 13.45. Model CMT-632 has galvanized steel face sheets with a 20-gauge flush smooth surface on the exterior face and a 26-gauge woodgrain texture with V-grooves on the interior (20-gauge is optional on the interior). Model CMT-616 and CMT-612 have galvanized steel face sheets with 26-gauge woodgrain texture with V-grooves on the exterior and interior faces. Section joints are tongue-and-groove for wind resistance. Sections have 16-gauge steel end stiles (optional on some models) and full vertical steel back-up plates for increased strength and solid face hardware attachment points.



## Commercial Insulated Steel Door Selection Guide

Model	Door Thickness	Face Sheet Material	Flush Panel Smooth	Flush Panel Stucco	V-Groove Wood Grain	Steel End Stiles	Super Heavy Duty	Heavy Duty	Std. Duty	Calculated "R" Value	Calculated "U" Value
CHT-850	3"	Alum.		●		●				25.8	0.039
CHT-832	3"	Steel	●			●	●			25.8	0.039
CHT-816	3"	Steel			●	●		●		25.8	0.039
CHT-750	1-3/4"	Alum.		●		●		●		16.18	0.062
CHT-732	1-3/4"	Steel	●			●	●			16.18	0.062
CHT-716	1-3/4"	Steel		●		●		●		16.18	0.062
CHT-712	1-3/4"	Steel			●				●	16.18	0.062
CMT-632	1-3/8"	Steel	●			●	●			13.45	0.074
CMT-616	1-3/8"	Steel			●	●		●		13.45	0.074
CMT-612	1-3/8"	Steel			●				●	13.45	0.074

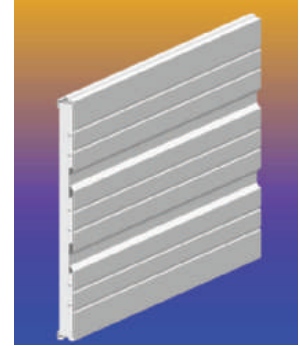


# Commercial Steel Sectional Doors

Haas Door Commercial Steel Sectional Doors (**Models 220, 220-L, 220-S, 224, 224-L, 224-S, 224-E, 224-EL and 224-ES**) provide an economical yet durable solution for many overhead sectional door applications.

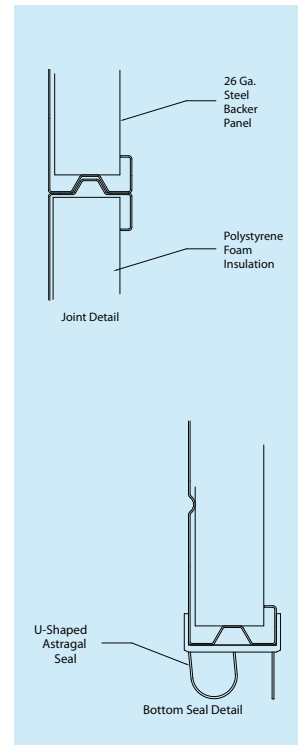
## Models 220, 220-L and 220-S

Commercial steel sectional doors are 2" thick and roll formed from 20 gauge galvanized steel in a semi-flush configuration with a smooth finish. Model 220 is not insulated. Model 220-L contains inserted, polystyrene foam insulation with a laminated vinyl type back panel. Model 220-S contains inserted, polystyrene foam insulation with a 26 gauge steel back panel. Section joints are tongue-and-groove for wind resistance. Sections have hot-dipped galvanized steel end stiles and intermediate stiles for increased strength and solid face hardware attachment points.



## Models 224, 224-L and 224-S

Commercial steel sectional doors are 2" thick and roll formed from 24 gauge galvanized steel in a semi-flush configuration with a smooth finish. Model 224 is not insulated. Model 224-L contains inserted, polystyrene foam insulation with a laminated vinyl type back panel. Model 224-S contains inserted, polystyrene foam insulation with a 26 gauge steel back panel. Section joints are tongue-and-groove for wind resistance. Sections have hot-dipped galvanized steel end stiles and intermediate stiles for increased strength and solid face hardware attachment points.



## Models 224-E, 224-EL and 224-ES

Commercial steel sectional doors are 2" thick and roll formed from nominal 24 gauge galvanized steel in a semi-flush configuration with a smooth finish. Model 224-E is not insulated. Model 224-EL contains inserted, polystyrene foam insulation with a laminated vinyl type back panel. Model 224-ES contains inserted, polystyrene foam insulation with a 26 gauge steel back panel. Section joints are tongue-and-groove for wind resistance. Sections have hot-dipped galvanized steel end stiles and intermediate stiles for increased strength and solid face hardware attachment points.

## Commercial Steel Sectional Door Selection Guide

Model	Door Thickness	Face Sheet Material	Vinyl-Backed Insulation	Steel-Backed Insulation	Steel End Stiles	Super Heavy Duty	Heavy Duty	Std. Duty	Calculated "R" Value	Calculated "U" Value
220	2"	Steel			●	●			NA	NA
220-L	2"	Steel	●		●	●			7.35	0.136
220-S	2"	Steel		●	●	●			7.35	0.136
224	2"	Steel			●		●		NA	NA
224-L	2"	Steel	●		●		●		7.35	0.136
224-S	2"	Steel		●	●		●		7.35	0.136
224-E	2"	Steel			●			●	NA	NA
224-EL	2"	Steel	●		●			●	7.35	0.136
224-ES	2"	Steel		●	●			●	7.35	0.136

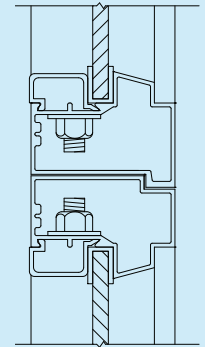


# Commercial Sectional Doors Models CA110 & CA-220

Haas Door Aluminum Sectional Doors (**Models CA-220 and CA110**) are strong, handsome and durable and the No. 1 choice of commercial and industrial architects. Ideal for fire houses, car washes, auto service centers, dealerships, and tire stores.

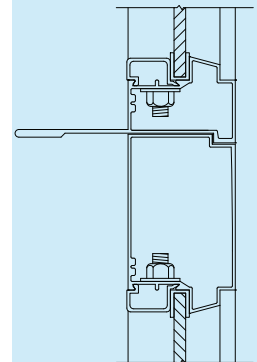
## Model CA-110 Narrow Line Frame

Sections are assembled using 0.065" minimum aluminum alloy, tubular extrusions with bolt through construction. Sections are 1-3/4" thick. Any section height is available. Bottom rails, top rails and end stiles are 3" on doors up to 13'-11" wide. Doors 14'-0" wide and greater have 4" bottom rails. All doors wider than 12'-0" have built in struts on each section. All aluminum is clear anodized as standard. Color anodizing and special paint finishes are optional. Panels for solid sections are 0.040" stucco embossed or 0.050" smooth aluminum. A wide variety of glazing materials are available.



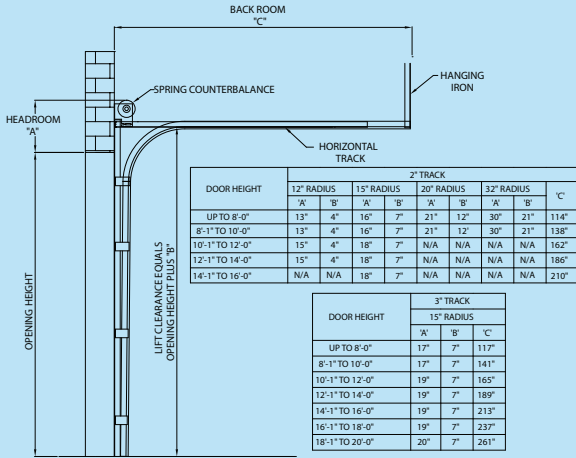
## Model CA-220 Heavy Duty Frame

Sections are assembled using 0.065" minimum aluminum alloy, tubular extrusions with bolt through construction. Sections are 1-3/4" thick. Any section height is available. Bottom rails, top rails and end stiles are 4" on doors up to 17'-11" wide. Doors 18'-0" wide and greater have a 6" bottom rails, top rail and end stiles. All doors wider than 12'-0" have built in struts on each section. Doors greater than 18'-0" have an additional "T" shaped cap strut on all sections. All aluminum is clear anodized as standard. Color anodizing and special paint finishes are optional. Panels for solid sections are 0.040" stucco embossed or 0.050" smooth aluminum. A wide variety of glazing materials are available.

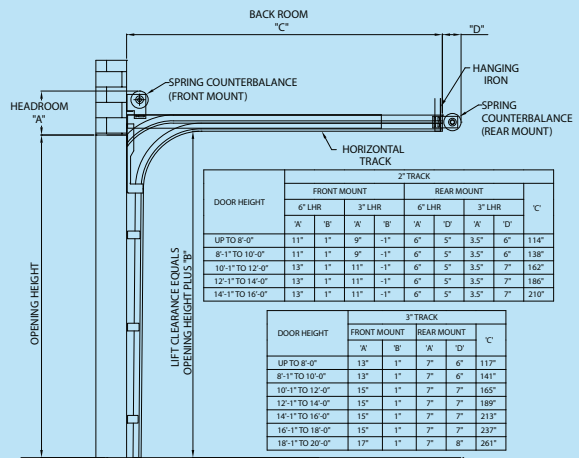


Commercial Aluminum Rail/Stile Dimensions						Commercial Aluminum Panels	
Models	CA-220			CA-110		Door Width	Panels Width
Width up to	8'-0" to 16'-2"	8'-0" to 16'-2"	8'-0" to 16'-2"	8'-0" to 16'-2"	8'-0" to 16'-2"	Up to 8'-11"	2
Center Stiles	2-1/2"	2-1/2"	2-1/2"	1-5/16"	1-5/16"	9'-0" to 11'-11"	3
End Stiles	4"	4"	4"	3"	3"	12'-0" to 15'-11"	4
Top Stiles	4"	4"	4"	3"	3"	16'-0" to 19'-11"	5
Meeting Rail	4"	4"	4"	2-1/2"	2-1/2"	20'-0" to 21'-11"	6
Bottom Rail	4"	6"	6"	3"	4"	22'-0" to 24'-2"	8

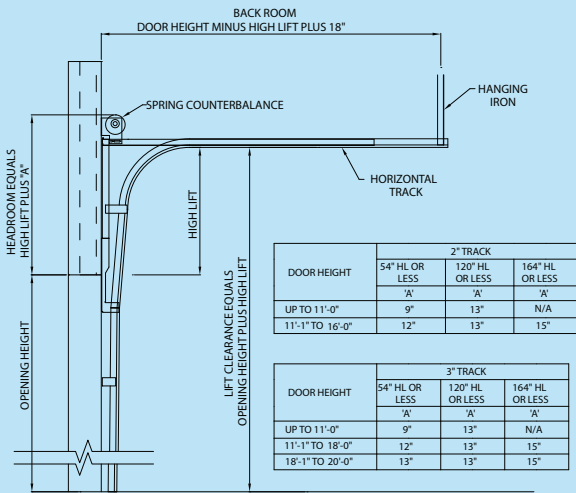
# Track Detail and Space Requirements



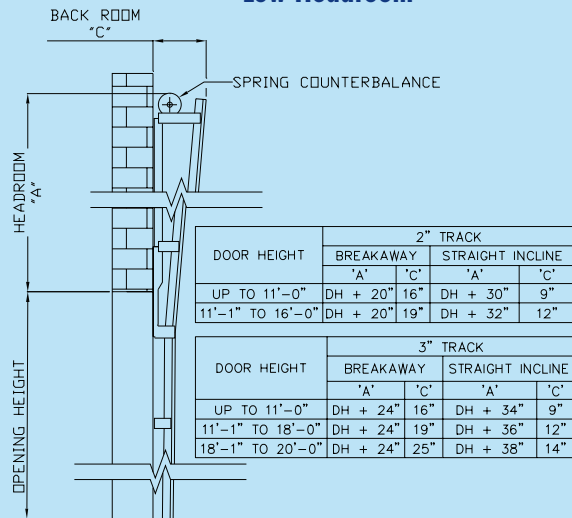
**Regular Lift**



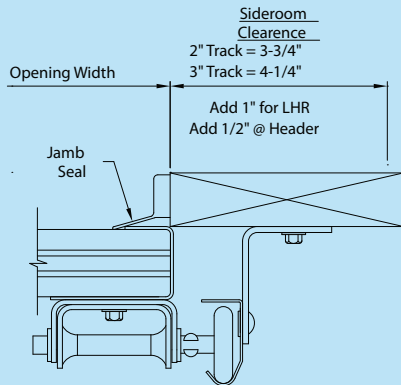
**Low Headroom**



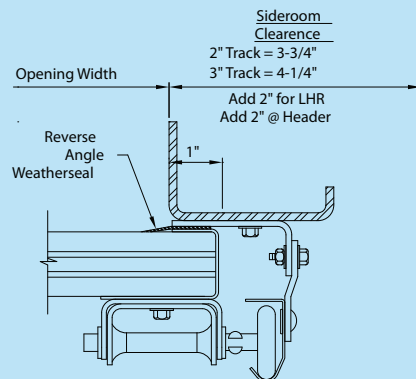
**High Lift**



**Vertical Lift**



ANGLE OR BRACKET MOUNTED TRACK - WOOD



REVERSE ANGLE MOUNTED TRACK - STEEL

