

Product Evaluation

GDR82 | 0422

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: GDR-82

Effective Date: April 1, 2022

Re-evaluation Date: April 2026

Product Name: Models 2140, 2141, 2150, 2151, 2240, 2241, 2250, 2251, 2550, 2551, 4140, 4141, 4150, 4151, 4240, 4241, 4250, 4251, 5250, 5251, 5950, 5951 Residential Sectional Steel Garage Doors, Non-Impact Resistant

Manufacturer: C.H.I. Overhead Doors
P. O. Box 260
Arthur, IL 61911
(800) 677-2650

General Description:

Models 2140, 2141, 2150, 2151, 2240, 2241, 2250, 2251, 2550, 2551, 4140, 4141, 4150, 4151, 4240, 4241, 4250, 4251, 5250, 5251, 5950, and 5951 doors are residential sectional garage doors constructed from galvanized steel with a baked on polyester finish. The 2250, 2251, 4250, 4251, 5250, and 5251 model doors are constructed from 25-gauge steel and may be insulated with expanded polystyrene insulation. The 2240, 2241, 4240, and 4241, model doors are constructed from 24-gauge steel and may be insulated with expanded polystyrene insulation. The doors use a combination of 3" U-bars and/or 6" C-channels for horizontal reinforcement. Drawing number, design pressures, door width, horizontal reinforcement, and glazing options are shown in Table 1.

Product Identification: A label will be affixed to the steel sectional overhead door. The label must include the manufacturer's name (CHI Overhead Doors); series/model number of door; the allowable design pressure rating; the design drawing number; and the test standards

(ANSI/DASMA 108). The installer will verify that the label is clearly marked indicating which door assembly is being installed, in addition to verifying that the design pressure rating is clearly marked.

Limitations:

Maximum Section Height: The maximum height of each door section must not exceed 21".

Maximum Width: The doors have a maximum width of 20'. Refer to Table 1 and the design drawings for the allowable door width dimensions.

Maximum Height: The doors have a maximum height of 20'. Refer to the design drawings for allowable door heights for specific doors.

Horizontal Reinforcement: The doors are reinforced with either 17-gauge or 19-gauge 3" steel struts or a combination of 17-gauge 3" steel struts and 16-gauge 6" C-channels. The quantity, placement, and installation of the struts and the C-channels are shown on the design drawings.

Stiles: The required number of stiles is specified on the design drawings.

Design drawings: Specified in Table 1.

Design pressures: Specified in Table 1.

Glazing (Optional): Glass options are specified on the design drawings. Glass is secured to the panels using a molded frame with the following fastener patterns:

- Short panel; maximum DLO of 16-1/2" x 10"; 2 fasteners per vertical side and 3 fasteners per horizontal side; 10 total
- Long panel; maximum DLO of 37-7/8" x 12-3/16"
 - Insulated glass: 3 fasteners per vertical side; 5 fasteners per horizontal side; 16 total
 - Non-insulated glass: 1 fastener at each corner; 2 fasteners per vertical side; 5 fasteners per horizontal side; 18 total
- Oversize panel; maximum DLO of 39-3/8" x 12-1/2"; 3 fasteners per vertical side and 5 fasteners per horizontal side; 16 total

Impact protection: These doors have not been tested for windborne debris resistance. Doors that contain glazing will need windborne debris protection if installed in areas where windborne debris protection is required.

Installation:

Design Drawings: The doors are to be installed as specified on the design drawings. The manufacturer will provide the design drawings with the door. The drawing numbers are specified in Table 1. Each page of the design drawing is dated March 7, 2022. Each page of the drawing is sealed by John E. Scates, P.E. and the first page is digitally signed and dated March 29, 2022, by John E. Scates, P.E.

Attachment of Doors to the Building: Doors are secured to the wall structure as specified in the Jamb Attachment details. The Jamb Attachment details include the following drawings:

BJA-101R8

BJA-102R7

BJA-103R8

BJA-104R8

BJA-105R7

BJA-105R5

BJA-106R5

Each drawing is dated March 26, 2020 and sealed by John E. Scates. Drawing BJA-101R8 is digitally signed and dated January 7, 2021.

Note: Keep the manufacturer's installation instructions, the appropriate design drawings, and the jamb attachment drawing available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.

Table 1
Models 2140, 2141, 2150, 2151, 2240, 2241, 2250, 2251, 2550, 2551, 4140, 4141, 4150,
4151, 4240, 4241, 4250, 4251, 5250, 5251, 5950, 5951

Door Width	Horizontal Reinforcement	Glass Option	Design Pressures (psf)	Drawing Number
6'-0"	17-gauge, 3" U-bars	Yes	+32.5 / -36.7	Z3-10-01308
7'-0"		Yes	+27.9 / -31.4	
8'-0"		Yes	+24.4 / -27.5	
9'-0"		Yes	+21.7 / -24.4	
10'-0"		Yes	+19.5 / -22.0	
13'-0"	19-gauge, 3" U-bars	Yes	+23.0 / -25.6	Z3-16-013L8
14'-0"		Yes	+21.4 / -23.8	
15'-0"		Yes	+19.9 / -22.2	
16'-0"		Yes	+18.7 / -20.8	
11'-0"	17-gauge, 3" U-bars	Yes	+27.2 / -30.3	Z3-16-01308
12'-0"		Yes	+24.9 / -27.7	
13'-0"		Yes	+23.0 / -25.6	
14'-0"		Yes	+21.4 / -23.8	
15'-0"		Yes	+19.9 / -22.2	
16'-0"		Yes	+18.7 / -20.8	
17'-0"	17-gauge, 3" U-bars	Yes	+19.8 / -22.0	Z3-18-01308
18'-0"		Yes	+18.7 / -20.8	
6'-0"	19-gauge, 3" U-bars	Yes	+34.8 / -39.3	Z4-09-013L8
7'-0"		Yes	+29.8 / -33.7	
8'-0"		Yes	+26.1 / -29.5	
9'-0"		Yes	+23.2 / -26.2	
6'-0"	19-gauge, 3" U-bars	Yes	+38.7 / -43.7	Z4-10-01308
7'-0"		Yes	+33.1 / -37.4	
8'-0"		Yes	+29.0 / -32.8	
9'-0"		Yes	+25.8 / -29.1	
10'-0"		Yes	+23.2 / -26.2	
11'-0"		Yes	+19.2 / -21.7	
6'-0"	19-gauge, 3" U-bars	Yes	+38.7 / -43.7	Z4-10-01308
7'-0"		Yes	+33.1 / -37.4	
8'-0"		Yes	+29.0 / -32.8	
9'-0"		Yes	+25.8 / -29.1	
10'-0"		Yes	+23.2 / -26.2	
11'-0"		Yes	+19.2 / -21.7	
11'-0"	17-gauge, 3" U-bars	Yes	+32.3 / -35.9	Z4-16-01308
12'-0"		Yes	+29.6 / -32.9	
13'-0"		Yes	+27.3 / -30.4	
14'-0"		Yes	+25.4 / -28.2	
15'-0"		Yes	+23.7 / -26.3	
16'-0"		Yes	+22.2 / -24.7	

Table 1
Models 2140, 2141, 2150, 2151, 2240, 2241, 2250, 2251, 2550, 2551, 4140, 4141, 4150,
4151, 4240, 4241, 4250, 4251, 5250, 5251, 5950, 5951

Door Width	Horizontal Reinforcement	Glass Option	Design Pressures (psf)	Drawing Number
17'-0"	17-gauge, 3" U-bars	Yes	+23.5 / -26.2	Z4-18-01308
18'-0"		Yes	+22.2 / -24.7	
19'-0"		Yes	+19.9 / -22.2	
6'-0"	17-gauge, 3" U-bars	Yes	+41.0 / -46.2	Z5-09-013L8
7'-0"		Yes	+35.1 / -39.6	
8'-0"		Yes	+30.7 / -34.7	
9'-0"		Yes	+27.3 / -30.8	
10'-0"		Yes	+22.1 / -24.9	
6'-0"	19-gauge, 3" U-bars	Yes	+45.5 / -51.3	Z5-10-01308
7'-0"		Yes	+39.0 / -44.0	
8'-0"		Yes	+34.1 / -38.5	
9'-0"		Yes	+30.3 / -34.2	
10'-0"		Yes	+27.3 / -30.8	
11'-0"		Yes	+22.6 / -25.5	
12'-0"		Yes	+19.0 / -21.4	
11'-0"	17-gauge, 3" U-bars	Yes	+38.1 / -42.3	Z5-16-01308
12'-0"		Yes	+34.9 / -38.8	
13'-0"		Yes	+32.2 / -35.8	
14'-0"		Yes	+29.9 / -33.3	
15'-0"		Yes	+27.9 / -31.0	
16'-0"		Yes	+26.2 / -29.1	
6'-0"	19-gauge, 3" U-bars	Yes	+52.3 / -59.2	Z6-10-01308
7'-0"		Yes	+44.9 / -50.7	
8'-0"		Yes	+39.3 / -44.4	
9'-0"		Yes	+34.9 / -39.4	
10'-0"		Yes	+31.4 / -35.5	
10'-0"	17-gauge, 3" U-bars	Yes	+31.4 / -35.5	Z6-10-013L8
11'-0"		Yes	+26.0 / -29.3	
12'-0"		Yes	+21.8 / -24.7	

Table 1
Models 2140, 2141, 2150, 2151, 2240, 2241, 2250, 2251, 2550, 2551, 4140, 4141, 4150,
4151, 4240, 4241, 4250, 4251, 5250, 5251, 5950, 5951

Door Width	Horizontal Reinforcement	Glass Option	Design Pressures (psf)	Drawing Number
10'-0"	17-gauge, 3" U-bars	Yes	+48.2 / -53.6	Z6-16-013L8
11'-0"		Yes	+43.8 / -48.7	
12'-0"		Yes	+40.1 / -44.7	
13'-0"		Yes	+37.0 / -41.2	
14'-0"		Yes	+34.4 / -38.3	
15'-0"		Yes	+32.1 / -35.7	
16'-0"		Yes	+30.1 / -33.5	
17'-0"		Yes	+26.7 / -29.7	
18'-0"		Yes	+23.8 / -26.5	
19'-0"		Yes	+21.3 / -23.8	
20'-0"		Yes	+19.3 / -21.4	
11'-0"	17-gauge, 3" U-bars	Yes	+43.8 / -48.7	Z6-16-01308
12'-0"		Yes	+40.1 / -44.7	
13'-0"		Yes	+37.0 / -41.2	
14'-0"		Yes	+34.4 / -38.3	
15'-0"		Yes	+32.1 / -35.7	
16'-0"		Yes	+30.1 / -33.5	
17'-0"		Yes	+26.7 / -29.7	
6'-0"	17-gauge, 3" U-bars	Yes	+54.0 / -60.9	Z7-09-013L8
7'-0"		Yes	+46.3 / -52.2	
8'-0"		Yes	+40.5 / -45.7	
9'-0"		Yes	+36.0 / -40.6	
11'-0"	17-gauge, 3" U-bars	Yes	+50.2 / -55.9	Z7-16-01308
12'-0"		Yes	+46.0 / -51.2	
13'-0"		Yes	+42.5 / -47.3	
14'-0"		Yes	+39.4 / -43.9	
15'-0"		Yes	+36.8 / -41.0	
16'-0"		Yes	+34.5 / -38.4	
17'-0"		Yes	+30.6 / -34.0	
18'-0"		Yes	+27.3 / -30.3	
19'-0"		Yes	+24.5 / -27.2	
20'-0"		Yes	+22.1 / -24.6	
18'-0"		17-gauge, 3" U-bars	Yes	
19'-0"	Yes		+31.0 / -34.5	
20'-0"	Yes		+27.9 / -31.1	
7'-0"	17-gauge, 3" U-bars	Yes	+54.7 / -62.1	Z8-10-01308
8'-0"		Yes	+47.9 / -54.4	
9'-0"		Yes	+42.6 / -48.3	
10'-0"		Yes	+38.3 / -43.5	

Table 1
Models 2140, 2141, 2150, 2151, 2240, 2241, 2250, 2251, 2550, 2551, 4140, 4141, 4150,
4151, 4240, 4241, 4250, 4251, 5250, 5251, 5950, 5951

Door Width	Horizontal Reinforcement	Glass Option	Design Pressures (psf)	Drawing Number
12'-0"	17-gauge, 3" U-bars	Yes	+52.7 / -59.2	Z8-16-01308
13'-0"		Yes	+48.6 / -54.6	
14'-0"		Yes	+45.1 / -50.7	
15'-0"		Yes	+42.1 / -47.4	
16'-0"		Yes	+39.5 / -44.4	
17'-0"		Yes	+35.0 / -39.3	
18'-0"		Yes	+31.2 / -35.1	
19'-0"		Yes	+28.0 / -31.5	
17'-0"	17-gauge, 3" U-bar 16-gauge, "C" Channels	Yes	+41.8 / -47.0	Z8-18-01308
18'-0"		Yes	+39.5 / -44.4	
19'-0"		Yes	+35.5 / -39.8	
20'-0"		Yes	+32.0 / -36.0	
8'-0"	17-gauge, 3" U-bars	Yes	+49.8 / -57.9	Z9-09-013L8
9'-0"		Yes	+44.3 / -51.5	
10'-0"		Yes	+35.9 / -41.7	
11'-0"		Yes	+29.7 / -34.5	
12'-0"		Yes	+24.9 / -29.0	
13'-0"		Yes	+21.2 / -24.7	
14'-0"		Yes	+18.3 / -21.3	
13'-0"	17-gauge, 3" U-bars	Yes	+51.8 / -57.7	Z9-16-01308
14'-0"		Yes	+48.1 / -53.6	
15'-0"		Yes	+44.9 / -50.0	
16'-0"		Yes	+42.1 / -46.5	
16'-0"	17-gauge, 3" U-bar 16-gauge, "C" Channels	Yes	+47.4 / -52.8	Z9-18-01308
17'-0"		Yes	+44.6 / -49.7	
18'-0"		Yes	+42.1 / -46.9	
19'-0"		Yes	+37.8 / -42.1	
20'-0"		Yes	+34.1 / -38.0	
8'-0"	17-gauge, 3" U-bars	No	+63.4 / -71.9	Z10-10-01308
9'-0"		No	+56.3 / -63.9	
10'-0"		Yes	+50.7 / -57.5	
11'-0"		Yes	+41.9 / -47.5	
14'-0"	17-gauge, 3" U-bars	Yes	+55.1 / -61.4	Z10-16-01308
15'-0"		Yes	+51.4 / -57.3	
16'-0"		Yes	+48.2 / -53.7	
17'-0"		Yes	+42.7 / -47.6	
18'-0"		Yes	+38.1 / -42.4	
19'-0"		Yes	+34.2 / -38.1	
20'-0"		Yes	+30.8 / -34.4	

Table 1
Models 2140, 2141, 2150, 2151, 2240, 2241, 2250, 2251, 2550, 2551, 4140, 4141, 4150,
4151, 4240, 4241, 4250, 4251, 5250, 5251, 5950, 5951

Door Width	Horizontal Reinforcement	Glass Option	Design Pressures (psf)	Drawing Number
16'-0"	17-gauge, 3" U-bars 16-gauge, "C" Channels	Yes	+54.2 / -60.4	Z10-18-01308
17'-0"		Yes	+51.0 / -56.9	
18'-0"		Yes	+48.2 / -53.7	
19'-0"		Yes	+43.3 / -48.2	
20'-0"		Yes	+39.0 / -43.5	