

Product Evaluation

GDR78 | 0622

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-78

Effective Date: June 1, 2022

Re-evaluation Date: June 2025

Product Name: Series 170-177, 180-187, 1400, 1440, 1500, and 1540 Residential Pan Steel Sectional Garage Doors, Non-Impact Resistant and Impact Resistant

Manufacturer: Overhead Door Corporation
2501 S State Hwy 121 Busn, Suite 200
Lewisville, TX 75067
(800) 929-3667

General Description:

Overhead Door Corporation residential pan doors encompass a family of products marketed under a variety of designations. This product evaluation report encompasses the Models 170-177 and 180-187 family of products. Additional Model designations are 1400, 1440, 1500, 1540. These are sectional overhead garage doors constructed of galvanized steel sections. The pan doors are 2" thick with tongue and groove sections. Various raised panel embossment options are available. They are constructed of 24-gauge or 25-gauge G-30 galvanized steel, and with two coats of polyester paint. Each section is constructed with 16-gauge or 20-gauge end stiles and 20-gauge steel center stiles. Horizontal strutting is added as required for wind load strength.

Model 1400 includes:

- Model 170, 25-gauge, Short Panel, uninsulated
- Model 171, 25-gauge, Long Panel, uninsulated
- Model 172, 25-gauge, V12 Panel, uninsulated
- Model 175, 25-gauge, V5 Panel, uninsulated

Model 1440 includes:

- Model 173, 24-gauge, Short Panel, uninsulated
- Model 174, 24-gauge, Long Panel, uninsulated
- Model 176, 24-gauge, V5 Panel, uninsulated
- Model 177, 24-gauge, V12 Panel, uninsulated

Model 1500 includes:

- Model 180, 25-gauge, Short Panel, 1-5/8", insulation
- Model 181, 25-gauge, Long Panel, 1-5/8", insulation
- Model 182, 25-gauge, V12 Panel 1-5/8", insulation
- Model 185, 25-gauge, V5 Panel 1-5/8", insulation

Model 1540 includes:

- Model 183 24-gauge, Short Panel 1-5/8", insulation
- Model 184 24-gauge, Long Panel 1-5/8", insulation
- Model 186, 24-gauge, V5 Panel 1-5/8", insulation
- Model 187, 24-gauge, V12 Panel 1-5/8", insulation

Hardware: The following applies to all doors.

- Horizontal reinforcement must comply with the requirements on each drawing.
- End Hinges: Typically, 14-gauge and 13-gauge galvanized steel, as shown on the drawing.
- Intermediate Hinges: Typically, 14-gauge galvanized steel, as shown on the drawing.
- Locks: Slide locks required if not attached to a drawbar (residential) door operator.
- End Caps: 20-gauge minimum galvanized steel.
- Tracks: Vertical tracks are 2" x 16-gauge minimum galvanized steel. See drawing for specifics.
- Tracks: Horizontal tracks may vary by door, and based on door weight and height, as determined by the manufacturer.
- Jamb Brackets: 15-gauge galvanized steel. Refer to the drawing for bracket quantity and locations.
- Rollers: 2" diameter 10-ball steel rollers, long stem and short stem rollers, per drawings. Locking "push nuts" added to some roller stems as shown on the drawing. 11-ball rollers with white nylon-covered tires optional where specified on the drawing.

Glazing: Windows (or "lites") are available on some door sizes if specified in the drawing notes. Glass material and clear opening size of the window also vary by drawing. Some products also include impact-tested window options.

Product Identification (One of the Following):

The doors have a wind load label applied by the installer that includes the manufacturer's name (Overhead Door); the model numbers (170-175, 177, 180-185, 187, 1400, 1440, 1500, and 1540); the drawing number; the design pressure rating; the test standards (ANSI/DASMA 108 and ANSI/DASMA 115); and the TDI product evaluation number (GDR-78).

The doors have a wind load label applied by the installer that includes the manufacturer's name (Overhead Door); the model numbers (170/171/175/180/181/185/1400/1500); the drawing number; the design pressure rating; the test standards (ANSI/DASMA 108 or TAS 202 and ANSI/DASMA 115 or TAS 201/TAS 203); and the TDI product evaluation number (GDR-78).

Limitations:

This evaluation report includes both non-impact resistant and impact resistant doors.

All non-impact resistant doors have the option to include glazing.

All impact resistant doors have the option to include impact-resistant glazing.

Non-impact doors have the option to include louvers in the bottom section.

All impact resistant doors do not include louvers.

The maximum height of each door section must not exceed 21".

The doors have a maximum width of 18'-2". Refer to the tables in this evaluation report for allowable door widths for specific doors.

The doors have a maximum height of 14 feet. Refer to the tables in this evaluation report for allowable door heights for specific doors.

On some doors, a vertical wind load post is required to obtain the design pressure rating. The placement and installation of the wind load post is shown on the design drawings.

Non-Impact Resistant Doors

Design Drawings: Specified in Table 1.

Allowable Dimensions: Specified in Table 1.

Design Pressures: Table 1.

Glazing (Optional): Glazing requirements specified on the drawings.

Louvers (Optional): Louver vents are permitted if indicated on the drawings. The louver vents are minimum 0.032" steel in molded frames, maximum size of 18-5/8" x 12-1/2". The louvers are secured to the door panel with a minimum of ten (10) No. 8 x 1" screws (3 along each horizontal leg and 2 along each vertical leg).

Impact protection: These doors have not been tested for windborne debris resistance. Doors with glazing will need to be protected with an impact protective system when installed in areas where windborne debris protection is required.

Impact Resistant Doors

Design Drawings: Specified in Table 2.

Allowable Dimensions: Specified in Table 2.

Design Pressures: Table 2.

Glazing (Optional): Glazing requirements specified on the drawings.

Louvers: Not permitted.

Impact Protection: These door assemblies have been tested for windborne debris resistance. These doors passed the equivalent of Missile Level D specified in ASTM E 1996-14a. These doors would not need to be protected with an impact protective system if they are installed in areas where windborne debris protection is required. The doors may not be installed on essential facilities as defined in ASCE 7-16.

Installation:

General: The door must be installed in accordance with the manufacturer's published installation instructions, engineering drawings, and this product evaluation report. A copy of the design drawings must be available at all times at the job site during installation. The information within this evaluation report governs if there are any conflicts between the manufacturer's instructions and this evaluation report. Interior reinforcement hardware configurations will vary based on the garage door dimensions and wind pressure requirements. Refer to Table 1 and Table 2 for maximum allowable door dimensions, allowable design pressures, and applicable drawings. Required reinforcement configurations are shown on the drawings.

The rated pressures may not be achieved unless the door is held closed during the wind event. The door must be locked closed, or alternately an electric drawbar operator attached to the door prior to the wind event. On doors up to 9' wide, one track must be engaged with a lock. On wider doors, both tracks must be engaged with a lock (right and left side).

Design Drawings: The drawings in Table 1 and Table 2 are signed, sealed, and dated by John E. Scates. The drawing revision, revision date, and seal date are specified in the tables. The doors must be installed as specified on the design drawings.

Attachment of Doors to Walls: Unless otherwise specified on the design drawings, the doors must be installed using one of the following methods:

Attachment of Door Components to Wood-Framed Walls Using a Wood Jamb: Brackets for the vertical tracks and for the flag angles of the door must be attached directly to wood jambs with the fasteners specified on the design drawings. The wood jambs and the attachment of the wood jambs to the wood framed walls must be as specified in the Jamb Connection Supplement, Drawing Number 411526, Rev. P01, signed and sealed on April 26, 2021 by John Scates, P.E.

Attachment of Door Components to Concrete/Masonry Block Walls Using a Wood Jamb:

Brackets for the vertical tracks and for the flag angles of the door shall be attached directly to wood jambs with the fasteners specified on the design drawings. The wood jambs and the attachment of the wood jambs to the concrete/masonry block walls must be as specified in the Jamb Connection Supplement, Drawing Number 411526, Rev. P01, signed and sealed on April 26, 2021 by John Scates, P.E.

Attachment of Door Components to Using Direct Mount Method: Brackets for the vertical tracks and for the flag angles of the door must be attached directly to the wall framing in accordance with the Jamb Connection Supplement, Drawing Number 411526, Rev. P01, signed and sealed on April 26, 2021 by John Scates, P.E.

Commercial Track Supplement (Available for all Doors): Doors may be secured to the wall framing of the structure in accordance with the Track Supplement Chart, Drawing No. 307494, Rev. P12, signed and sealed on December 1, 2020 by Dwayne J. Kornish, P.E. Design pressure rating and maximum door width may be limited by this supplement.

Table 1
Drawing, Allowable Door Dimensions,
Glazing Options and Design Pressure Rating
Non-Impact Resistant Doors

Drawing	Maximum Width (ft-in)	Design Pressure (psf)		Vertical Post	Glass Option
		Positive	Negative		
D-411536 Rev D; 2/09/22 Sealed 5/26/22	9-0	+22.9	-26.3	No	Yes
D-411537 Rev D; 2/09/22 Sealed 5/26/22	9-0	+26.9	-30.8	No	Yes
D-411525 Rev C; 2/10/22 Sealed 5/26/22	9-0	+31.0	-35.0	No	Yes
D-411538 Rev D; 2/10/22 Sealed 5/26/22	9-0	+37.0	-41.0	No	Yes
D-411046 Rev H; 2/10/22 Sealed 5/26/22	16-0	+23.0	-25.0	No	Yes
D-411047 Rev G; 2/10/22 Sealed 5/26/22	16-0	+30.0	-33.5	No	Yes
D-411048 Rev G; 2/10/22 Sealed 5/26/22	16-0	+34.4	-38.3	No	Yes
D-411548 Rev D; 2/10/22 Sealed 5/26/22	16-0	+26.0	-29.0	No	Yes
D-411545 Rev F; 2/10/22 Sealed 5/26/22	18-0	+26.3	-29.3	No	Yes
D-411051 Rev G; 2/10/22 Sealed 5/26/22	18-0	+18.5	-20.7	No	Yes
D-411052 Rev F; 2/10/22 Sealed 5/26/22	18-0	+34.4	-38.3	No	Yes
D-411053 Rev G; 2/10/22 Sealed 5/26/22	18-0	+34.4	-38.3	Yes	Yes

Table 2
Drawing, Allowable Door Dimensions,
Glazing Options and Design Pressure Rating
Impact Resistant Doors

Drawing	Maximum Width (ft-in)	Design Pressure (psf)		Vertical Post	Glass Option
		Positive	Negative		
D-411537 Rev D; 2/09/22 Sealed 5/26/22	9-0	+26.9	-30.8	No	Yes
D-411525 Rev C; 2/10/22 Sealed 5/26/22	9-0	+31.0	-35.0	No	Yes
D-411538 Rev D; 2/10/22 Sealed 5/26/22	9-0	+37.0	-41.0	No	Yes
D-411043 Rev B; 2/28/22 Sealed 5/26/22	9-0	+46.0	-52.0	No	Yes
D-411046 Rev H; 2/10/22 Sealed 5/26/22	16-0	+23.0	-25.0	No	Yes
D-411548 Rev D; 2/10/22 Sealed 5/26/22	16-0	+26.0	-29.0	No	Yes
D-411047 Rev G; 2/10/22 Sealed 5/26/22	16-0	+30.0	-33.5	No	Yes
D-411048 Rev G; 2/10/22 Sealed 5/26/22	16-0	+34.4	-38.3	No	Yes
D-411049 Rev F; 2/10/22 Sealed 5/26/22	16-0	+46.0	-52.0	No	Yes
D-411689 Rev B; 2/10/22 Sealed 5/26/22	16-0	+46.0	-52.0	No	Yes
D-411545 Rev F; 2/10/22 Sealed 5/26/22	18-0	+26.3	-29.3	No	Yes

Table 2
Drawing, Allowable Door Dimensions,
Glazing Options and Design Pressure Rating
Impact Resistant Doors

Drawing	Maximum Width (ft-in)	Design Pressure (psf)		Vertical Post	Glass Option
		Positive	Negative		
D-411052 Rev F; 2/10/22 Sealed 5/26/22	18-0	+34.4	-38.3	No	Yes
D-411053 Rev G; 2/10/22 Sealed 5/26/22	18-0	+34.4	-38.3	Yes	Yes
D-411054 Rev F; 2/10/22 Sealed 5/26/22	18-0	+46.0	-52.0	Yes	Yes
D-411690 Rev B; 2/10/22 Sealed 5/26/22	18-2	+46.0	-52.0	No	Yes
D-411691 Rev B; 2/10/22 Sealed 5/26/22	18-0	+34.4	-38.3	No	Yes

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