

## Product Evaluation

DR290 | 0819

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:** DR-290

**Effective Date:** August 1, 2019

**Re-evaluation Date:** July 2023

**Product Name:** Diamond GEM 130 mph Series and Diamond GEM 150 mph Series Steel Opaque Side Hinged Doors, Outswing, Impact Resistant

**Manufacturer:** Diamond Door Products

52294 HWY 290 West

Hempstead, TX 77445

(979) 826-0238

### General Description:

System	Description	Design Pressure Rating
1	Diamond GEM 4080 130 mph Series Steel Opaque Side Hinged Door, Outswing	+40.76 / -34.30 psf Missile Level D
2	Diamond GEM 4070 150 mph Series Steel Opaque Side Hinged Door, Outswing	+50.7 / -60.15 psf Missile Level D

### Product Dimensions:

System	Overall Size	Door Panel Size	Glass Daylight Opening Size
1	52-3/4" x 95-1/2"	47-3/4" x 95-1/8"	N/A
2	52-3/4" x 86-3/8"	47-3/4" x 83-1/8"	N/A

**Hardware:**

**Hinges:** Barrel ball bearing, 4-1/2" x 4-1/2"; Three (3) required; secured to the door panel with four (4) No. 12-24 x 1/2" machine thread screws; secured to the door side jamb with four (4) No. 12-24 x 1/2" machine thread screws.

**Lock:** Lever lock; one (1) required; S. Parker Hardware Manufacturing, Part No. HLL2-P

**Strike Plate (Lever Lock):** One (1) required; secured to the door side jamb with two (2) No. 12-24 x 1/2" Philips stainless steel screws.

**Deadbolt:** Single cylinder heavy duty deadbolt; one (1) required; S. Parker Hardware Manufacturing; Part No. 92160

**Strike Plate (Deadbolt):** One (1) required; secured to the door side jamb with two (2) No. 12-24 x 1/2" Philips stainless steel screws.

**Threshold:** Sloped Sill; 6063-T5 aluminum

**Door Panel Skin:** 20-gauge steel

**Head and Side Jamb:** 16-gauge steel; 10-1/4" wide x 3" deep

**Door Panel Core:** Polystyrene

**Product Identification (Manufacturer Label on Door):**

System		
1, 2	Manufacturer's name	Diamond Door Products
	Product name	Diamond "GEM" Series Outswing Steel Entry Door
	Test standards	ASTM E 330-02, ASTM E 1886-05, ASTM E 1996-12, Missile Level D

**Impact Resistance:**

System	Impact Resistant	Requirement
1, 2	Yes	These products satisfy TDI's criteria for protection from windborne debris in the Inland I and Seaward zone. Install the assemblies at a height on the structure that does not exceed the design pressure rating for the assemblies.

**Installation:**

Wall framing must be minimum 16-gauge steel.

Each door side jamb has two (2) 10" x 20" 16-gauge steel c-channel jamb extensions secured to it. One is located at the top of the door side jamb. The other is located 16" from the bottom of the door. Each jamb extension is anchored into the door side jambs with one (1) No. 8 x 1" self-

tapping screw located 4" from each end of the jamb extension at the interior and 4" from each end of the jamb extension at the exterior (four (4) fasteners).

A 16-gauge steel Z-purlin (Supplied by Others) is placed between the door jamb extensions and the steel wall framing at the mid height of the door. The Z-purlin is anchored to the door jamb extension and to the wall framing with a 2" x 1-1/2", 12-gauge steel angle. The steel angle is secured to the wall framing with five (5) 3/8" x 3" steel bolts and to the jamb extensions with five (5) No. 8 x 1" self-tapping screws. The angle is secured to the Z-purlins with five (5) No. 8 x 1" self-tapping screws.

A 16-gauge steel Z-purlin (Supplied by Others) is placed between the door jamb extensions and the steel wall framing at the top (head) of the door. The Z-purlin is anchored to the door jamb extension and to the wall framing with a 2" x 1-1/2", 12-gauge steel angle. The steel angle is secured to the wall framing with five (5) 3/8" x 3" steel bolts and to the jamb extensions with five (5) No. 8 x 1" self-tapping screws. The angle is secured to the Z-purlins with five (5) No. 8 x 1" self-tapping screws.

A 12-gauge steel L-clip, welded to the door side jambs, is used to secure the bottom of the door to the floor framing. Each steel L-clip is anchored to the floor framing with two (2) 5/16" x 3" steel bolts.

**Note:** Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.