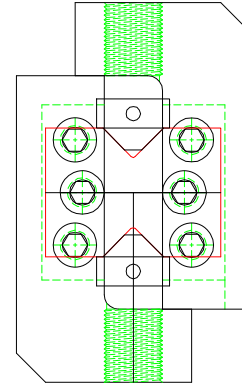


## V-NOTCHED RAIL SHEAR TEST FIXTURE (SS)



Specimen:	Width	2.2"
	Thickness	Up to 1/2"
	Length	3"
Fixture:	Construction	Stainless steel
	Temperature	-240 to 600°F (-152 to 318°C)
	Mounting	1" -14 threaded couplings
	Capacity	10,000 lbs (44.4 kN)
	Weight	17 lbs
	Dimensions	6.5" x 4" x 2.5"
	Standard	Manufactured in accordance with ASTM D7078

### Model No. ASTM.D7078.10 - V-Notched Rail Shear Test Fixture

Two rail fixture that allows the rails to introduce shear forces into the specimen through the specimen faces. Each half of the fixture consists of two gripping plates with thermal spray coating and a side rail. Six bolts on each half of the fixture apply pressure to secure the specimen. Each fixture half includes 1" -14 threaded loading couplings. Includes alignment spacers. Constructed of stainless steel in accordance with ASTM D7078. Temp Range:-240 to 600°F (-152 to 318°C), Capacity: 10,000 lbs (44.4 kN).

## **MODEL NO. ASTM.D7078.10**

### **ASTM, SHEAR, COMPOSITE, V-NOTCHED, RAIL,**

#### **ACCESSORIES**

**Upper and lower fixture attachment is supplied with 1" -14 female coupling. (Common adapter sizes include:)**

Model No. M03S36 - 1.25" Male Clevis (Type D) to 1" -14 Threaded Stud

Model No. S42S36 - 1.25" -12 to 1" -14 Threaded Step Stud

Model No. S48S36 - 1.5" -12 to 1" -14 Threaded Step Stud

Model No. S60S36 - 2" -12 to 1" -14 Threaded Step Stud

Model No. LN36 - Threaded Locking Nut with Knurled OD

#### **SPARE PARTS**

SPA.D7078.1001 - Replacement Alignment Spacers

#### **REFERENCE DOCUMENT AND TEST METHOD SCOPE:**

<http://www.astm.org/Standards/D7078.htm>

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Standard Test Method for Shear Properties of Composite Materials by V-Notched Rail Shear Method

1.1 This test method covers the determination of the shear properties of high-modulus fiber-reinforced composite materials by clamping the ends of a V-notched specimen between two pairs of loading rails. When loaded in tension, the rails introduce shear forces into the specimen through the specimen faces. In comparison, the specimen of Test Method D5379/D5379M is loaded through its top and bottom edges. Face loading allows higher shear forces to be applied to the specimen, if required. Additionally, the present test method utilizes a specimen with a larger gage section than the V-notched specimen of Test Method D5379/D5379M. In both test methods, the use of a V-notched specimen increases the gage section shear stresses in relation to the shear stresses in the vicinity of the grips, thus localizing the failure within the gage section while causing the shear stress distribution to be more uniform than in a specimen without notches. In comparison, Test Method D4255/D4255M utilizes an unnotched specimen clamped between two pairs of loading rails that are loaded in tension. Also in contrast to Test Method D4255/D4255M, the present test method provides specimen gripping without the need for holes in the specimen.

The composite materials are limited to continuous-fiber or discontinuous-fiber-reinforced composites in the following material forms:

1.1.1 Laminates composed only of unidirectional fibrous laminae, with the fiber direction oriented either parallel or perpendicular to the fixture rails.

1.1.2 Laminates of balanced and symmetric construction, with the 0° direction oriented either parallel or perpendicular to the fixture rails.

1.1.3 Laminates composed of woven, braided, or knitted fabric filamentary laminae.

1.1.4 Short-fiber-reinforced composites with a majority of the fibers being randomly distributed.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. Within the text the inch-pound units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with the standard.

*Material Testing Technology*

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