



PRODUCT BROCHURE

# SPLICEPLATE

FIBER REINFORCED WALE SPLICE PLATE



# WHAT IS SPLICEPLATE

SPLICEPLATE has been engineered to replace stainless or galvanized steel for wale splice applications in which light weight, lower cost, speed of installation and ease of field fabrication are important to the owner and contractor.

The polyurethane matrix fiber reinforced pultruded wale splice plate has been designed to transfer 100% of the moment through thermoplastic and wood wale splices used extensively for bridge and asset fendering.



**Splice Plate Close Up**



Standard thickness = 0.75" (19mm)

## MECHANICAL & PHYSICAL PROPERTIES

<b>SPLICEPLATE Mechanical Properties</b>	<b>Mean (psi)</b>	<b>Mean (Mpa)</b>	<b>Standard Deviation (psi)</b>	<b>Standard Deviation (Mpa)</b>	<b>Minimum Required<sup>2</sup> (psi)</b>	<b>Minimum Required<sup>2</sup> (Mpa)</b>
In-Plane Flexural Strength (LW) ASTM D790	77,101	532	5,407	37	60,880	420
In-Plane Flexural Strength (CW) ASTM D790	65,718	453	2,064	14	59,526	410
Flexural Modulus of Elasticity In-Plane (LW) ASTM D790	2,930,000	20,202	150,000	1,034	2,480,000	17,099
Flexural Modulus of Elasticity In-Plane (CW) ASTM D790	2,770,000	19,098	100,000	689	2,470,000	17,030
Pin Bearing Strength (LW) ASTM D953 <sup>1</sup>	60,450	417	1,230	8	56,760	391
Pin Bearing Strength (CW) ASTM D953 <sup>1</sup>	62,690	432	1,480	10	58,250	402
In-Plane Shear Strength (LW) ASTM D5379	23,082	159	757	5	20,811	143
In-Plane Shear Strength (CW) ASTM D5379	22,424	155	767	5	20,123	139
Tensile Strength (LW) ASTM D638 <sup>3</sup>	61,947	427	3,054	21	52,785	364
Tensile Modulus (LW) ASTM D638 <sup>3</sup>	3,270,000	22,546	130,000	896	2,880,000	19,857
Tensile Strength (CW) ASTM D638 <sup>3</sup>	47,654	329	1,487	10	43,194	298
Tensile Modulus (CW) ASTM D638 <sup>3</sup>	2,180,000	15,031	150,000	1,034	1,730,000	11,928
Compression Strength (LW) ASTM D6641 <sup>3</sup>	65,271	450	3,954	27	53,409	368
Compression Modulus (LW) ASTM D6641 <sup>3</sup>	2,340,000	16,134	290,000	1,999	1,470,000	10,135
Compression Strength (CW) ASTM D6641 <sup>3</sup>	43,065	297	2,887	20	34,404	237
Compression Modulus (CW) ASTM D6641 <sup>3</sup>	2,250,000	15,513	390,000	2,689	1,080,000	7,446

Notes:

- 1.0 Tested to ultimate strength with a 3/4" pin.
- 2.0 Values represent the mean minus three standard deviations.
- 3.0 Material properties derived from 1/4" thick test specimens.

# MECHANICAL & PHYSICAL PROPERTIES

SPlicePLATE Physical Properties	
Density	.069 lb./in <sup>3</sup> (1.91 g/cm <sup>3</sup> )
Weight	5.69 lb/ft. (8.46 kg/m)

## FABRICATION

Creative can custom mill the fiber reinforced polyurethane plate to fit your bolt pattern and dimensional requirements.

## FIELD FABRICATION

SPlicePLATE can be field cut with a concrete, skill or reciprocating saw. An abrasive blade should always be used. Concrete saws work the best and can be utilized with a standard concrete cutting blade. During drill and sawing operations, dust will be emitted. The dust is considered a nuisance dust, which can irritate your eyes and skin. Therefore, safety glasses, gloves and long sleeve shirts are recommended during the cutting and drilling process.

As documented by OSHA, FRP dust millings have potential to cause eye, skin, and upper respiratory tract irritation.

- Cause - mechanical-irritant properties of the glass fibers.
- FRP particulate is non-hazardous.
- FRP particulate is greater than 6 microns; therefore, it cannot reach the alveoli.
- The International Agency for Research on Cancer (IARC) classified FRP particulate as non-cancer causing in June of 1987.

## SPECIFYING SPlicePLATE

### 1.0 SCOPE

- 1.1 This specification applies to the material requirements, the manufacture and performance of fiber reinforced polyurethane splice plates.

### 2.0 PLATE PROPERTIES

- 2.1 The FRP plates shall meet the minimum properties as described in the mechanical and physical properties.
- 2.2 The FRP plates shall be manufactured with an abrasion resistant polyurethane resin.
- 2.3 The visual requirements shall be per ASTM D4385.
- 2.4 The dimensional requirements shall be per ASTM D3917.

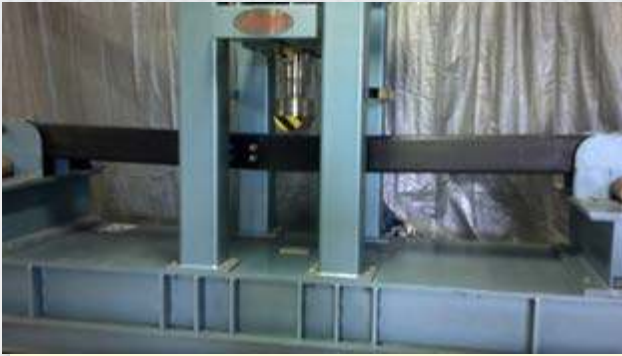
### 3.0 FINISH

- 3.1 The plates shall contain a 10 mil polyester surface veil.
- 3.2 The plates shall be coated with a UV stable powder or paint.

### 4.0 QUALITY ASSURANCE

- 4.1 Quality assurance shall be performed as described in the organizations quality plan, as approved by the Engineer of Record.

## TESTING



**Full Section Testing of SPLICEPLATE**

The engineered splice has been tested and vetted for its intended purpose.

The 9" wide by 3/4" thick splice plate is manufactured with Creatives' SUPURTUF™ polyurethane technology. It exhibits superior impact and abrasion resistance with superior strength. The fiber architecture has been tailored to exhibit near quasi-isotropic values with superior in-plane, flexural and pin bearing attributes.

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