



## PLASTIC SHIM COMPRESSION TEST

The below listed shims were loaded in Compression until permanent deformation occurred with results as follows \*\*:

| Part Number      | Dimensions – Inches         | Color  | Piece # 1<br>LBS / shim | Piece # 2<br>LBS / shim |
|------------------|-----------------------------|--------|-------------------------|-------------------------|
| 402-1 x 1/16     | 1-1/2 x 2 x 1/16            | Blue   | 30,000                  | 30,000                  |
| 402-1 x 1/8      | 1-1/2 x 2 x 1/8             | Red    | 22,000                  | 22,500                  |
| 402-1 x 1/4      | 1-1/2 x 2 x 1/4             | Black  | 12,500                  | 12,500                  |
| 402-2 x 1/16     | 2-5/16 x 3 x 1/16           | Blue   | 52,000                  | 52,500                  |
| 402-2 x 1/8      | 2-5/16 x 3 x 1/8            | Red    | 40,000                  | 42,000                  |
| 402-2 x 1/4      | 2-5/16 x 3 x 1/4            | Black  | 22,500                  | 22,500                  |
| 402-2 x 3/8      | 2-15/16 x 3 x 3/8           | White  | 12,500                  | 12,500                  |
| 402-3 x 1/16     | 1-1/2 x 3-1/2 x 1/16        | Blue   | 50,000                  | 50,000                  |
| 402-3 x 1/8      | 1-1/2 x 3-1/2 x 1/8         | Red    | 27,500                  | 26,000                  |
| 402-3 x 1/4      | 1-1/2 x 3-1/2 x 1/4         | Black  | 13,000                  | 13,500                  |
| 402-3 x 3/8      | 1-1/2 x 3-1/2 x 3/8         | White  | 15,000                  | 15,000                  |
| 402-4 x 1/16     | 1-7/8 x 2-5/8 x 1/16        | Blue   | 32,000                  | 33,000                  |
| 402-4 x 1/8      | 1-7/8 x 2-5/8 x 1/8         | Red    | 22,000                  | 22,000                  |
| 402-4 x 1/4      | 1-7/8 x 2-5/8 x 1/4         | Black  | 15,000                  | 15,000                  |
| 402-6 x 1/32     | 3 x 4 x 1/32                | Green  | 127,000                 | 127,000                 |
| 402-6 x 1/16     | 3 x 4 x 1/16                | Blue   | 95,000                  | 95,000                  |
| 402-6 x 1/8      | 3 x 4 x 1/8                 | Red    | 75,000                  | 75,000                  |
| 402-6 x 1/4      | 3 x 4 x 1/4                 | Black  | 70,000                  | 70,000                  |
| 402-6 x 3/8      | 3 x 4 x 3/8                 | White  | 45,000                  | 42,500                  |
| 402-6 x 1/2      | 3 x 4 x 1/2                 | Brown  | 30,000                  | 32,000                  |
| 402-6 x 5/8      | 3 x 4 x 5/8                 | Purple | 30,000                  | 30,000                  |
| 402-6 x 3/4      | 3 x 4 x 3/4                 | Blue   | 30,000                  | 30,000                  |
| 402-6W x 1/4     | 3 x 4 x 1/4 to 1/16         | Tan    | 100,000                 | 100,000                 |
| 402-9 x 1/16     | 4 x 6 x 1/16                | Blue   | 200,000                 | 200,000                 |
| 402-9 x 1/8      | 4 x 6 x 1/8                 | Red    | 187,000                 | 187,000                 |
| 402-9 x 1/4      | 4 x 6 x 1/4                 | Black  | 135,000                 | 135,000                 |
| 402-9 x 3/8      | 4 x 6 x 3/8                 | White  | 100,000                 | 100,000                 |
| 402-9 x 1/2      | 4 x 6 x 1/2                 | Brown  | 90,000                  | 90,000                  |
| 444-1 x 1/4      | 1-1/2 x 3-3/8 x 1/4 to 1/32 | Black  | 27,000                  | 27,000                  |
| 444-2 x 3/8      | 1-1/2 x 6 x 3/8 to 1/32     | Black  | 50,000                  | 50,000                  |
| 444-3 x 1/4      | 1-1/2 x 8 x 1/4 to 1/16     | Black  | 75,000                  | 75,000                  |
| 424-1 x 1/16     | 1-7/8 x 3-1/8 x 1/16        | Black  | 120,000                 | 123,000                 |
| 424-2 x 1/16     | 1-7/8 x 3-5/8 x 1/16        | Black  | 130,000                 | 130,000                 |
| 424-3 x 1/16     | 1-7/8 x 5-1/8 x 1/16        | Black  | 145,000                 | 145,000                 |
| 424-1 x 1/32     | 1-7/8 x 3-1/8 x 1/32        | Black  | 135,000                 | 135,000                 |
| 460-2 x 2 x 1/6  | 2 x 2 x 1/16                | Black  | 90,000                  | 93,000                  |
| 460-2 x 2 x 1/8  | 2 x 2 x 1/8                 | Black  | 65,000                  | 72,500                  |
| 460-2 x 2 x 1/4  | 2 x 2 x 1/4                 | Black  | 45,000                  | 45,000                  |
| 460-2 x 2 x 3/8  | 2 x 2 x 3/8                 | Black  | 15,000                  | 15,000                  |
| 460-2 x 4 x 1/16 | 2 x 4 x 1/16                | Black  | 95,000                  | 97,000                  |
| 460-2 x 4 x 1/8  | 2 x 4 x 1/8                 | Black  | 80,000                  | 80,000                  |
| 460-2 x 4 x 1/4  | 2 x 4 x 1/4                 | Black  | 35,000                  | 35,000                  |

|                    |                            |              |                                 |                                 |
|--------------------|----------------------------|--------------|---------------------------------|---------------------------------|
| 460-2 x 4 x 3/8    | 2 x 4 x 3/8                | Black        | 25,000                          | 25,000                          |
| <b>Part Number</b> | <b>Dimensions – Inches</b> | <b>Color</b> | <b>Piece # 1<br/>LBS / shim</b> | <b>Piece # 2<br/>LBS / shim</b> |
| 460-2 x 6 x 1/16   | 2 x 6 x 1/16               | Black        | 200,000                         | 200,000                         |
| 460-2 x 6 x 1/8    | 2 x 6 x 1/8                | Black        | 200,000                         | 200,000                         |
| 460-2 x 6 x 1/4    | 2 x 6 x 1/4                | Black        | 100,000                         | 100,000                         |
| 460-3 x 3 x 1/16   | 3 x 3 x 1/16               | Black        | 78,000                          | 80,000                          |
| 460-3 x 3 x 1/8    | 3 x 3 x 1/8                | Red          | 60,000                          | 62,000                          |
| 460-3 x 3 x 1/4    | 3 x 3 x 1/4                | Black        | 45,000                          | 46,000                          |
| 460-3 x 3 x 3/8    | 3 x 3 x 3/8                | Black        | 35,000                          | 35,000                          |
| 460-3 x 3 x 1/2    | 3 x 3 x 1/2                | Black        | 25,000                          | 25,000                          |
| 460-3 x 4 x 1/2    | 3 x 4 x 1/2                | Pink         | 35,000                          | 37,500                          |
| 460-4 x 4 x 1/16   | 4 x 4 x 1/16               | Black        | 200,000                         | 200,000                         |
| 460-4 x 4 x 1/8    | 4 x 4 x 1/8                | Grey         | 175,000                         | 175,000                         |
| 460-4 x 4 x 1/4    | 4 x 4 x 1/4                | Black        | 60,000                          | 60,000                          |
| 460-4 x 4 x 3/8    | 4 x 4 x 3/8                | White        | 55,000                          | 55,000                          |
| 460-4 x 4 x 1/2    | 4 x 4 x 1/2                | Black        | 45,000                          | 47,500                          |
| 460-4 x 6 x 1/16   | 4 x 6 x 1/16               | Black        | 200,000                         | 200,000                         |
| 460-4 x 6 x 1/8    | 4 x 6 x 1/8                | Black        | 200,000                         | 200,000                         |
| 460-4 x 6 x 1/4    | 4 x 6 x 1/4                | Black        | 200,000                         | 200,000                         |
| 460-4 x 6 x 3/8    | 4 x 6 x 3/8                | Black        | 150,000                         | 150,000                         |
| 460-4 x 6 x 1/2    | 4 x 6 x 1/2                | Black        | 115,000                         | 110,000                         |
| 460-6 x 6 x 1/16   | 6 x 6 x 1/16               | Black        | 200,000                         | 200,000                         |
| 460-6 x 6 x 1/8    | 6 x 6 x 1/8                | Black        | 200,000                         | 200,000                         |
| 460-6 x 6 x 1/4    | 6 x 6 x 1/4                | Black        | 200,000                         | 200,000                         |
| 460-8 x 8 1/16     | 8 x 8 x 1/16               | Black        | 200,000                         | 200,000                         |
| 460-8 x 8 x 1/8    | 8 x 8 x 1/8                | Black        | 200,000                         | 200,000                         |
| 460-8 x 8 x 1/4    | 8 x 8 x 1/8                | Black        | 200,000                         | 200,000                         |
| 460-8 x 8 x 1      | 8 x 8 x 1                  | Black        | 200,000                         | 200,000                         |

\*\* NOTE: These measurements do not represent mill certifications. They are tests done on individual samples of one specific production run. Fabricator and/or installer should determine acceptable workloads. These measurements should be used for reference only. Horseshoe shim material is polypropylene. Other materials vary (High Impact Poly Styrene or Glass Filled ABS)

## MATERIAL PROPERTIES

|  | Method  | Polypropylene          | High Impact Polystyrene |
|--|---|------------------------|-------------------------|
| Tensile strength at break, p.s.i.                    | D638 <sup>b</sup>                                   | 4500-6000              | 5200-7500               |
| Elongation at break, %                               | D638 <sup>b</sup>                                   | 100-600                | 1.2-2.5                 |
| Tensile yield strength, p.s.i.                       | D638 <sup>b</sup>                                   | 4500-5400              |                         |
| Comprehensive strength (rupture or yield), p.s.i.    | D695  | 5500-8000              | 6000-8000               |
| Flexural strength (rupture or yield), p.s.i.         | D790  | 6000-8000              | 10,000-14,600           |
| Tensile modulus, 10 <sup>3</sup> , p.s.i.            | D638 <sup>b</sup>                                   | 165-225                | 330-475                 |
| Comprehensive modulus, 10 <sup>3</sup> , p.s.i.      | D695  | 150-300                | 480-490                 |
| Flexural modulus, 10 <sup>3</sup> , p.s.i.           | 73°F D790<br>200°F D790<br>250°F D790<br>300°F D790 | 170-250<br>50<br>35    | 380-490                 |
| Izod impact, ft-lb/in of notch (1/8" thick specimen) | D256A   | 0.4-1.2                | 0.35-0.45               |
| Hardness<br>Rockwell<br>Shire/Barcol                 | D785  | R80-102<br>D2240/D2583 | M60-75                  |

All of our plastic shims are manufactured in the United States with recycled plastic material.  
The recycled plastic content is over 98%.

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