

Don't Judge a Book by Its Cover: D-Ring Hardware Selection

D-Ring Hardware: Looks can be deceiving



There are millions of D-Rings manufactured domestically and internationally, so as a manufacturer, we have limitless options. Typically we use D-Rings with cut pieces of webbing sewn over the straight edge of the D-Ring hardware, as pictured above. We use D-rings of various widths and sizes from different supplier sources depending on the job they need to do. As one of our main component parts, these D-Ring and D-Ring assemblies are critical in our products, so we want to pass along our thoughts on the differences in various D-Rings and how looks can be deceiving. Please keep this in mind when you use D-Rings in your everyday business.

For our products, the most important aspect in choosing a D-Ring is typically what the stated break strength is based on their application. To answer that, let's first look at how hardware manufacturers weld the D-Rings. Whether making D-Rings or any other metal hardware that has a weld, the process of welding is bending the two open ends of the metal until they touch. At that time, an electric charge on the wire bonds (welds) the two ends together. Many people think wire size is the only determining factor of the D-Ring strength, but the weld is the integrity of the hardware. **Regardless of wire size, if the welding process is poorly executed then the product will fail long before it should** when the break strength is put to the test.



Examples of four different D-Ring styles sent by suppliers

Since D-Rings (and other metal pieces) are a critical part of our manufacturing process we overpay for a product that is overkill for their application. All of the above D-Rings are 1-1/4", but all look and feel very different. These are each from a different supplier. Some are taller than others and with different bends at different starting points. All this can change the feel – and cost.

Feel vs. Cost

We recently received samples of D-Rings from a new manufacturer we were evaluating for use for non-life sustaining sewed products (not water sports equipment) we also make. Upon receiving them, we felt that they weren't as heavy duty as other samples we had received. Other samples "felt" heavier and stronger. We noticed that the new samples were different; they were a *slightly* bigger wire size, but they were also taller and wider, which had nothing to do with their application. They felt heavier because *they were*. It took more wire to make this particular D-Ring style because although it was still a 1-1/4" ring, its overall dimensions were larger. It took more wire, which made it heavier. After having destructive testing done and breaking several of all styles we were able to determine that the less heavy duty D-Ring had a higher break strength and the weld actually held up to a much higher break strength than the heavier weight one.

We can speak from experience: sometimes you may not know exactly what you're buying from us or why we have selected the component parts with such care and research. We never stay in the mode of "It's what the company has "always" used and it works". We are always looking for ways to improve our products by investigating possible better, alternative products that keep us at the forefront of our industry.

For instance the D-Rings used in our chutes are made by a MARINE HARDWARE manufacturer specialist with over 40 years of experience in the business. We have done destructive testing on our chute riser assemblies and D-Rings they made and it took over 7,000 lbs. of force (the maximum the testing equipment would go) before any very minor damage was detectedjust a couple of stitches popped. The D-Rings they supplied did not break or distort. The risers should never see this kind of pressure and this testing made us feel confident that we had made the right manufacturing and component decisions.

We know the metal hardware we use is "overkill" and expensive but we strive to continually find and improve the structural integrity of all of our products by using redundancy and the best materials and component parts available, no matter the cost.