The material used in a forged fitting, such as carbon or alloy steel, determines the potential properties. The manufacturing processes determine what the properties will actually be. The material must be special bar forging quality steel and fine grained. The heating of steel to forging temperature must be properly controlled to insure that the steel is not "injured" by overheating. Proper forging equipment and techniques must be employed to assure proper material flow in the dies and tooling. The heat treatment process must be well defined and precisely controlled.

The heat treatment process must be well defined and precisely employed to assure proper material flow in the dies and tooling. Material must be special bar forging quality steel and fine grained. The manufacturing processes determine what the properties will actually be. The steel determines the potential properties. The manufacturing process is important.

The mechanical properties that are important when lifting a load under normal conditions are tensile strength and ductility. The ability to carry a load increases with the tensile (pulling) strength of the steel. The ability of steel to deform in an overload condition is known as its ductility. Both of these factors enter greatly into determining the working load limit of a forging. Ductility is measured by standard engineering tests of elongation and reduction of area. It is also measured by how much deformation the fitting incurs when overloaded. The tensile strength determines the actual working load, while ductility allows the product to deform significantly when overloaded, thus giving warning before ultimate failure.

The mechanical properties of steel when a load is repeatedly applied is known as its fatigue strength. Fatigue testing determines the ability of a material to withstand repeated applications of a load. The load by itself may be too small to produce a failure. There are three factors involved when considering fatigue strength. These are: the number of cycles at which a crack initiates, the number of cycles at which the crack starts to grow, and the number of cycles at which the fitting fails. One accepted method of fatigue rating fittings is to test them to 1-1/2 times the working load limit for 20,000 cycles, without failure. This standard test is accepted as indicating indefinite life when used within the working load limit under normal circumstances. Crosby has an active program to determine fatigue properties. Included in this program is the use of finite element design methods to predict possible weak areas, which in turn allows us to design in superior fatigue properties. Crosby specifies material of specific cleanliness and guarantee superior fatigue properties. Crosby designs and manufactures its products with fatigue in mind. Crosby has a program in place that will result in all load bearing products used in critical applications being fatigue rated.

The mechanical properties of steel when a load is very rapidly applied is known as its impact strength. Impact tests of elongation and reduction of area. It is also measured by how much deformation the fitting incurs when overloaded. The tensile strength determines the actual working load, while ductility allows the product to deform significantly when overloaded, thus giving warning before ultimate failure. Crosby recognizes the importance of impact properties and has an active program to determine impact properties at various temperatures of each material used in the various heat treat conditions. Crosby products are designed to be used in a wide range of temperatures. Crosby specifies material of specific cleanliness and guaranteed hardenability which enhances fatigue and impact properties. Crosby has an active program to determine impact properties. Crosby has an active program to determine fatigue properties. Included in this program is the use of finite element design methods to predict possible weak areas, which in turn allows us to design in superior fatigue properties. Crosby recognizes the importance of impact properties and has an active program to determine impact properties at various temperatures of each material used in the various heat treat conditions. Crosby products are designed to be used in a wide range of temperatures. Crosby specifies material of specific cleanliness and guaranteed hardenability which enhances fatigue and impact properties. Crosby recognizes the importance of impact properties and has an active program to determine impact properties at various temperatures of each material used in the various heat treat conditions. Crosby products are designed to be used in a wide range of temperatures. Crosby specifies material of specific cleanliness and guaranteed hardenability which enhances fatigue and impact properties. Crosby has an active program to determine impact properties. Crosby has an active program to determine fatigue properties. Included in this program is the use of finite element design methods to predict possible weak areas, which in turn allows us to design in superior fatigue properties. Crosby recognizes the importance of impact properties and has an active program to determine impact properties at various temperatures of each material used in the various heat treat conditions. Crosby products are designed to be used in a wide range of temperatures. Crosby specifies material of specific cleanliness and guaranteed hardenability which enhances fatigue and impact properties.

Does the material selection process recognize fatigue properties? Does the fitting have required tensile strength, ductility, fatigue and impact properties? Does the material selection process recognize fatigue properties? Does the fitting have required tensile strength, ductility, fatigue and impact properties?

Are standards established to insure sufficient cleanliness of the steel? Are standards established to insure sufficient cleanliness of the steel? Are standards established to insure sufficient cleanliness of the steel? Are standards established to insure sufficient cleanliness of the steel?

What processes do they consider important? What processes do they consider important? What processes do they consider important? What processes do they consider important?

The market leader: Yesterday, today and tomorrow.