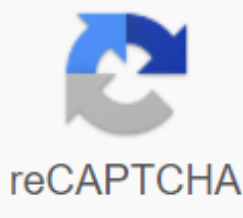




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Steel Plate Weight Calculator Uk. Use this calculator to calculate the weight of beams, bars, sheets, columns, tubings, etc. made from steel, aluminum, nickel, iron, copper and other commonly used metals. Online steel weight calculator for free. Calculating the weight of any type of metal product: beams, profiles of various types, bars, tubes, pipes, sheets, etc. is similar to that of any other type of material. We need to know the volume of the metal (cu in, cu mm, cu cm, etc.) and its density (usually in g/cm3, oz/in3). Multiplying the two gives us the resulting metal weight. In the metal weight calculator above we have pre-entered the densities of many commonly used metals like carbon steel, stainless steel, iron, copper, nickel, aluminum, as well as metal alloys such as bronze, aluminum and nickel alloys: Nickel 200, Monel 400, Inconel 600, Inconel 625, Inconel 718, Inconel X-750, Incoloy 800. Selecting a material from the list will automatically fill in its density in the "density" field. However, you can always enter a custom density, if it is known to you and the calculator will use that instead. A common mistake is to confuse "steel" with "metal". The two are not synonyms! In fact, steel is not technically a metal, but a metal alloy, since it is made from a mixture of iron, carbon, and other elements in very small quantities. We have a set of different types of products to choose from, and each would require a different set of measurements to be entered, in order to calculate its volume. Our steel weight calculator supports different types of products, as described below. If you wish to calculate a more complex product, you can either break it down into simpler components which you can then calculate individually, or use a more advanced piece of software. Round metal bar A round metal bar is one of the easiest ones to calculate, as you only need to enter 2 measurements: the diameter and the length of the bar. For example, let's calculate the weight in steel of a bar with length 1 meter and diameter of 20 mm. The volume of the steel bar is the product of the area of the cross-section and the length: $\pi \times r^2 \times l = 3.1416 \times 102 \times 1000 = 314,160 \text{ mm}^3 = 314.16 \text{ cm}^3$ ($r = 1/2 \times \text{diameter}$, $l = 1 \text{ m} = 1000 \text{ mm}$). If using a carbon steel with density of 7.95 g/cm3, we need the product of 7.95 and 314.16, which equals 2497.572 g, or ~2.498 kg. That is, of course, what you will get if using our calculator to do the math for you. Rectangular or square metal bar In order to calculate the weight of a square metal bar you only need to know one side of its cross-section and its length, but you will still need to enter two sides, since our tool also supports rectangular bars for which the second side can differ. The formula then is to multiply the three together: width x height x length, and then multiply by the density to get to the weight. For example, for an aluminum rectangular bar with a cross section of 20 mm by 30 mm and a length of 2 meters, we need to calculate the volume as $20 \times 30 \times 2000 = 1,200,000$ cubic millimeters or 1,200 cubic centimeters. Given a density of 2.72, we then get the product of $2.72 \times 1,200 = 3,264 \text{ g}$ or 3.264 kg. Hexagonal metal bar Two measurements are needed for a hexagonal bar: length and width, where the width is the distance between any two of its opposing sides. We only support regular hexagons for the moment. Given the width we can easily calculate the area of the hexagon cross-section and from there - the total volume and weight of the bar. Metal sheet A metal sheet is no different than a rectangular bar, it is in the calculator for your convenience mostly. Metal tubing A metal tube or pipe is a bit more complex to compute than a round metal bar, since we need to know either both the inner and outer diameters, or one of the diameters and the thickness of the tubing. In our metal calculator we chose to require the outer diameter and the thickness, as these are usually the easiest to measure (and if you have the plans in front of you, it should be easy to get any two numbers either way). Rectangular metal profile Rectangular metal profiles are used very often in construction due their good ability to resist forces from all directions. We currently only support purely rectangular profiles with straight angles only. The added dimension in comparison to a rectangular bar is the profile thickness. L-profile The l (small L) profile is just two metals planks welded or cast together, at angle of 90 degrees. It is basically a base and a flange on just one side. We support angles with both equal and unequal arms. U-profile (U-channel, C-channel) The U-profile, also known as U-channel in Europe and as C-channel in the US, is shown below: The U profile has a base and two parallel flanges: one on either side of it. They are also called U-channels and a lot of them are standardized. Our steel calculator has many of the standard profiles - the EU UPN and UPE, the U.S. C and BC channels, so you can just select them and we will use their details automatically. Otherwise you can specify a custom profile. Below you see an illustration of the UPN and UPE channels, which are equivalent in overall shape to C-channels and BC-channels, respectively. UPN steel profiles are used widely in many industrial applications and machinery building. C-Channels are their american standardized equivalent. UPE profiles have thinner thickness, but slightly wider flanges than UPN profiles and comparable static values. Using UPE profiles can potentially result in weight saving of up to 30% with barely any sacrifice in static conditions. BC is short for "Bar Channel section with parallel flanges". Its flanges and webs have the same thickness by definition and they are often used as a low-cost alternative to heavier profiles for a broad variety of applications as the specific weight per meter value is relatively low. IPE and BC channels are significantly easier to assemble as there is no need for conical flat washers to compensate the natural conicity of the C-Channel / UPN channel flanges. I-profile (H-profile, I-beam, or H-beam) The I-profile, also known as an I-beam, H-profile, and H-beam, are like two U-channels, back to back. It has two flanges and a web between them. There are two types of shapes for the cross-section of an I-beam. The W-shaped has flanges that have about the same thickness from end to end, while the S-shaped has flanges that are significantly thinner near their edges. Both are used as support beams for construction, facilities and engineering, factory shops, warehouses and truck bed framing. There are way too many standards of such profiles, such as IPE, IPN, HD, HE, HL, HP, S, and so on. Due to the sheer number of standards we don't have automatic fill-in for these types, you would need to type the numbers into the calculator yourself and calculations for S-shaped beams are likely to be less accurate than those of W-shaped ones. T-profile A T-profile is just as it sounds: it looks like the letter T. It can be a jointed one - if it is welded or bolted, or warm-manufactured - when it's hot rolled or extruded. As with other profiles and beams the horizontal part of the cross-section is called a "flange" while the vertical part is called "web". Our steel calculator supports all kinds of custom T-beams. Steel bridge References [1] Nickel Institute. "Properties of Some Metals and Alloys" (1982) [online] Available at: /media/files/technicalliterature/propertiesofsomemetalsandalloys_297_.pdf [2] DIN 1026-1: 2009 The weights calculated on this steel weight calculator page are for guidance only. They are calculated using average densities for the materials. The exact composition of the material will affect the weight of the actual piece. The information provided in good faith and is for your guidance only. All weights shown using this metal weight calculator are for guidance only. They are calculated using nominal dimensions and scientifically recognised densities. Please note that in practice, the actual metal weight can vary significantly from theoretical weight due ... metalweb are a leading AS9100 accredited metals stockist and service provider, supplying aluminium, steels, titanium ,nickel alloys , copper alloys and other hi-tech metals. Based in the UK with 3 sites, metalweb are part of the 'Reliance Steel & Aluminium' family of companies, a global metal stockholding group with nearly 300 global locations. Steel weight calculator providing theoretical weights. As a guide the calculator provides theoretical weights for round, square, flat, hexagonal and octagonal steel bar. It can also be used to calculate theoretical weights of sheet/plate and tube/ring steel. calculators, engineering calculators.... Enter value, select units and click on calculate. Result will be displayed. Metal, shape, weight, size, and number of pieces. Metal Weight Calculator - Stainless, Aluminum, Nickel, Titanium & More! | TW Metals JavaScript seems to be disabled in your browser. Use this free tool to easily estimate the weight of carbon steel plates. Whether your plates are round or square, it will automatically account for plates with or without holes. Simply enter the dimensions and quantity to get the total weight. Contact us for a quick quote on fabricated plates for bolted applications. 4/19/2018 · Metal Weight Calculator. Here you can find a handy way to work out steel weights in various forms such as sheet, wire, flat, hexagonal, tubular and more. Its important to note these are based on theoretical calculations and therefore only act as a guide not a recommendation. Metal weight calculator online - free steel weight calculator. Has pre-entered densities for dozens of commonly-used metals and metal alloys like steel, aluminum, nickel, iron, copper, cadmium, gold, silver, etc. Calculate the weight of a steel beam, bar, tube, profiles, channels, or a simple metal sheet. 2500 x 1250 x 150mm Mild Steel Plate (1177.50 Kg/m2) 4000 x 2000 x 150mm Mild Steel Plate (1177.50 Kg/m2) For more information, help or free advice, call us today on 0800 021 70 10, or send us an email: sales@metalsupplies.com We look forward to supplying you with superior-quality, products for your business or domestic use.

