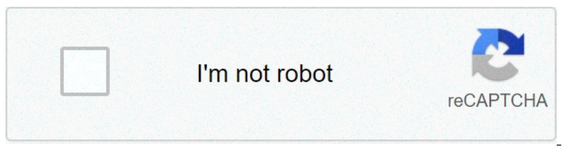

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Metric buttress thread chart pdf

About us | Contact us | Disclaimer | Privacy PolicyCopyright © 2013-2020 It has been suggested that this article be split into articles titled Sawtooth thread and Buttress pipe thread. (Discuss) (January 2021) Two types of buttress thread profiles used in machinery. The buttress thread form refers to two different thread profiles: One is a type of leadscrew often used in machinery, and is also known as the sawtooth thread[1][2] or breech-lock thread form.[3] The asymmetric thread form allows the thread to have low friction and withstand greater loads than other forms in one direction, but at the cost of higher friction and inferior load bearing in the opposite direction. The other is a type of trapezoidal (ACME) tapered pipe thread, also known as the buttress pipe thread.[4] It is often used in oil fields as a hydraulic sealing thread form. Buttress thread in machinery In machinery, the buttress thread form is designed to handle extremely high axial thrust in one direction. The load-bearing thread face is perpendicular to the screw axis,[5] or at a slight slant (usually no greater than 7°).[6] The other face is slanted, often at 45°. The resulting thread form has the same low friction properties as a square thread form but at about twice the shear strength due to the long thread base. This thread form also is easy to machine on a thread milling machine, unlike the difficult-to-machine square thread form. It can also compensate for nut wear using a split nut, much like the Acme thread form.[7] Buttress threads have often been used in the construction of artillery, particularly with the screw-type breechblock.[3] They are also often used in vises, because great force is only required in one direction.[7] It is obvious on inspection that a buttress thread with perpendicular face, operating in a split nut, generates minimal disengagement force when tightened in the normally loaded direction, and thus it is possible to derive quick release devices to, for example, allow rapid repositioning of the movable jaw of a vise without having to rotate the screw by many turns. A screw profile, such as acme, where the thrust face is not perpendicular to the axis, generates a significant disengagement force on a split nut, therefore a more robust controlling mechanism would be required. Quick release vices are readily available. It is not known whether any of them are currently using buttress screws. An expired patent for a clamp using a buttress thread exists and this article describes a vise whose screw thread is disengaged by reverse rotation, which is likely to use a buttress thread, however no currently manufactured devices of that nature have been found at this time (October 2018). Types The image gallery below shows some of the types of buttress threads. Simple buttress thread form[8] The ANSI 45°/7° buttress thread form[9] The British 45°/7° buttress thread form[10] The 45°/5° buttress thread form[8] The 33°/3° German "Sägegewinde" (saw tooth) buttress thread form[8] Mechanics Main article: Leadscrew Buttress thread in oil field tubing In oil field tubing, buttress thread is a pipe thread form designed to provide a tight hydraulic seal. The thread form is similar to that of Acme thread[11] but there are two distinct threaded portions of differing diameters and profiles, the larger having a wedging profile, with a tapered sealing portion in between the larger and smaller diameters. High torque may be transmitted and longitudinal force is transmitted almost parallel to the axis. The thread is about the same strength as standard v threads. See also Leadscrew Trapezoidal thread form References ^ CN101571035B - Sawtooth thread of drill pipe joint - Google Patents ^ Saw Tooth Thread Gauges | Metric Buttress Thread Gauges | Tru Thread ^ a b French, Thomas Ewing (1918-01-01). A Manual of Engineering Drawing for Students and Draftsmen. McGraw-Hill book Company, Incorporated. ^ Elements of Oil and Gas Well Tubular Design by P.D. Pattillo, p. 255 ^ Barnwell, p. 163. ^ US patent 5127784, David Eslinger, "Fatigue-resistant buttress thread", issued 1992-07-07 ^ a b Bhandari, p. 204. ^ a b c Oberg, p.1817 ^ Oberg, pp. 1819–1820. ^ Timings, p. 127. ^ US patent 6893057, M. Edward Evans, "Threaded pipe connection", issued 2005-05-17 Figure 6. Bibliography Barnwell, George W. (1941), The new encyclopedia of machine shop practice, Wm. H. Wise & Company. Bhandari, V B (2007), Design of Machine Elements, Tata McGraw-Hill, ISBN 978-0-07-061141-2. Oberg, Erik; Jones, Franklin D.; Horton, Holbrook L.; Ryffel, Henry H. (2000), Machinery's Handbook (26th ed.), New York: Industrial Press Inc., ISBN 0-8311-2635-3. Timings, Roger Leslie (2005), Newnes Mechanical Engineer's Pocket Book (3rd ed.), Newnes, ISBN 978-0-7506-6508-7. Retrieved from " Desktop Views include most desktop computers. Mobile Views include most mobile phones (aka, smartphones). Tablet devices may be tracked as either Desktop or Mobile depending on their configurations. Desktop Views include most desktop computers. Mobile Views include most mobile phones (aka, smartphones). Tablet devices may be tracked as either Desktop or Mobile depending on their configurations. Because of its asymmetrical profile, the buttress thread is well-suited for a high, unilaterally working axial load. The thread is often used in spindle presses, lifting systems and for collet chucks in lathes und milling machines. The flank angle is 33°.NominalDiameterBolt ThreadMinor DiametermmTappingDrill SizemmS 10 x 26.5287.000S 12 x 36.7947.500S 14 x 38.7949.500S 16 x 49.05810.000S 18 x 411.05812.000S 20 x 413.05814.000S 22 x 513.32214.500S 24 x 515.32216.500S 26 x 517.32218.500S 28 x 519.32220.500S 30 x 619.58621.000S 32 x 621.58623.000S 34 x 623.58625.000S 36 x 625.58627.000S 38 x 725.85227.500S 40 x 727.82529.500S 42 x 739.82531.500S 44 x 731.82533.500S 46 x 832.11634.000S 48 x 834.11636.000S 50 x 836.11638.000S 52 x 838.11640.000S 55 x 939.38041.500S 60 x 944.38046.500S 65 x 1047.64450.000S 70 x 1052.64455.000S 75 x 1057.64460.00S 80 x 1062.64465.000S 85 x 1264.17467.000S 90 x 1269.17472.000S 95 x 1274.17477.000S 100 x 1279.17482.000S 105 x 1284.17487.000S 110 x 1289.17492.000S 115 x 1490.70294.000S 120 x 1495.70299.000S 125 x 14100.702104.000S 130 x 14105.702109.000S 135 x 14110.702114.000S 140 x 14115.702119.000S 145 x 14120.702124.000S 150 x 16122.231126.000S 155 x 16127.231131.000S 160 x 16132.231136.000S 165 x 16137.231141.000S 170 x 16142.231146.000S 175 x 16147.231151.000S 180 x 18148.760153.000S 185 x 18153.760158.000S 190 x 18158.760163.000S 195 x 18163.760168.000S 200 x 18168.760173.000S 210 x 20175.289180.000S 220 x 20185.289190.000S 230 x 20195.289200.000S 240 x 22201.818207.000S 250 x 22211.818217.000S 260 x 22221.818227.000S 270 x 24228.347234.000S 280 x 24238.347244.000S 290 x 24248.347254.000S 300 x 24258.347264.000 Advertising: The buttress thread with 45° flank angle is used on hydraulic presses. It is used in order to avoid the development of explosive force in the nut, since the nut has to be divided into two parts for heavy press columns for technical reasons. NominalDiameterBolt ThreadNominal DiametermmMinor DiametermmTappingDrill SizemmPitchmmS 100 x 5100.0094.2595.005.00S 106 x 5106.00100.25101.005.00S 112 x 5112.00106.25107.005.00S 118 x 5118.00112.25113.005.00S 125 x 5125.00119.25120.005.00S 132 x 5132.00126.25127.005.00S 140 x 5140.00134.25135.005.00S 150 x 6150.00143.10144.006.00S 160 x 6160.00153.10154.006.00S 170 x 6170.00163.10164.006.00S 180 x 6180.00173.10174.006.00S 190 x 6190.00183.10184.006.00S 200 x 8200.00190.80192.008.00S 212 x 8212.00202.80204.008.00S 224 x 8224.00214.80216.008.00S 236 x 8236.00226.80228.008.00S 250 x 8250.00240.80242.008.00S 265 x 10265.00253.50255.0010.00S 280 x 10280.00268.50270.0010.00S 300 x 10300.00288.50290.0010.00S 315 x 10315.00303.50305.0010.00S 335 x 12335.00321.20323.0012.00S 355 x 12355.00341.20343.0012.00S 375 x 12375.00361.20363.0012.00S 400 x 16400.00381.60384.0016.00S 425 x 16425,00406,60409,0016,00S 450 x 16450.00431.60434.0016.00S 475 x 16475.00456.60459.0016.00S 500 x 16500.00481.60484.0016.00S 530 x 20530.00507.00510.0020.00S 560 x 20560.00537.00540.0020.00S 600 x 20600.00577.00580.0020.00S 630 x 20630.00607.00610.0020.00S 670 x 24670.00642.40646.0024.00S 710 x 24710.00682.40686.0024.00S 750 x 24750.00722.40726.0024.00S 800 x 32800.00763.20768.0032.00S 850 x 32850.00813.20818.0032.00S 900 x 32900.00863.20868.0032.00S 950 x 32950.00913.20918.0032.00S 1000 x 321000.00963.20968.0032.00S 1060 x 401060.001014.001020.0040.00S 1120 x 401120.001074.001080.0040.00S 1180 x 401180.001134.001140.0040.00S 1250 x 401250.001204.001210.0040.00 Advertising: INDEX of THREAD DATA CHARTS DIN 513 Metric 3°/30° Buttress Screw Threads External 7e Medium-Fit; 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Many other permutations of the thread form are included in the DIN 513 root documents. This data is provided for general information only. The intention is to provide accurate information; regardless; errors may exist in the supplied information. If accuracy is critical, base your final decisions on the data provided in the root document: DIN 513 (this data was taken from DIN 513:1985 Parts 1, 2 and 3); which are copyrighted documents. To purchase your own copy visit an Authorized Reseller. Comments: Original Posting: 2/28/2008 Last Revision: 2/27/2013 Error corrections in, or comments about, the above data can be sent to: office@gagecrib.com Historical REAFFIRMED 1995-05-01 This standard specifies the characteristic of the MJB metric series of buttress screw threads based on 7°/45° form, with width of truncation same as MJ screw thread profile, and with a controlled radiused root in the external thread. This standard establishes the basic triangular profile for the MJB thread form, the design profiles, standard pitches, tolerance classes, formulae for tolerances and dimensions, tolerance tables, and a system of designations. Because of the specialized application for buttress threads, no preferred diameter-pitch series have been established for this standard and each application will require use of the thread formulae for dimensions and related tolerances given herein for deriving the thread dimensional requirements. We also recommend: STANDARD INSERT, SCREW THREAD, HELICAL COIL, METRIC SERIES, SCREW LOCKING, CRES, DRY FILM LUBRICATED MA3330D View Details Want to participate in updating this standard? Join Committee Learn More SAW TOOTH THREADS are used in the construction of artillery with the screw type breech block / gun barrels OR vices & screw jack. 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