Flemish bond and english bond pdf

The English bond is considered the strongest and most widely used brick link in construction work. It consists of an alternative course of headers and stretchers. In this arrangement, the vertical joints in the header and stretcher courses come on top of each other. To break the vertical joints in the nearest consecutive queen courses must be placed after the first head in each header course. FLEMISH BOND: In this brick link, each course consists of alternative headers and stretchers. Each header is supported above the stretchers below. To break the vertical joints in successive trains, queen closures are placed in alternative courses next to the queen header. Bats are essentially needed for walls with an odd number of half-bricks. The Flemish obligation gives a better appearance than the English obligation. Flemish bonds can be subdivided into two different categories. 1. Single Flemish bond and 2. Double Flemish link. THE difference between the English and the Flemish bond is that the English bond is much stronger than the Flemish bond for thicker walls than the 11/2 brick. The Flemish link shows a more attractive and pleasant appearance of masonry work. The Flemish link is economical because it uses broken brick bats, although it requires a little extra mortar for extra joints. Uses of the Flemish obligation is a bit difficult as the English link. Flemish bonding requires more skilled labour and supervision. This article needs additional quotes for verification. Please help improve this article by adding quotes to reliable sources. Non-source materials can be challenged and removed. Find sources: Brickwork - news Newspapers Books scholar JSTOR (March 2020) (Learn how and when to delete this model message) Masonry produced by a mason, using bricks and mortar Decorative Tudor brick chimneys, Hampton Court Palace, United Kingdom One of the buildings of the University of Jyv-skyl, Jyv-skyl (Finland) Court 2, Polychromatic Yemen polychromatic and bricks indented in a mid-Victorian terrace in west London Brickwork is masonry produced by a brickworks produced by a brickworks, using brickworks and mortar. Typically, rows of bricks called courtyards[1][2] are placed on top of each other to build a structure such as a brick wall. Bricks can be differentiated from blocks by size. By in the UK, a brick is defined as a unit with dimensions less than 337.5x225x112.5mm and a block is defined as a unit with one or more dimensions greater than the largest brick possible. Brick is a popular way to build buildings, and examples of bricks can be found throughout history as far away as the Bronze Age. The brick faces from the ziggurat of the ancient Dur-Kurigalzu in Iraq date from about 1400 BC. BC, and the brick buildings of the ancient Mohenjo-daro in Pakistan were built around 2600 BC. Much older examples of brick bricks with dried bricks (but not cooked) can be found in places as old as Jericho in Judea, 'attal Huyok in Anatolia, and Mehrgarh in Pakistan. These structures have survived from the Stone Age to the present day. Coordinating dimensions of a brick in a wall Working dimensions of a brick in a wall Brick dimensions are expressed in construction or technical documents in two ways as coordination dimensions and work dimensions. The coordination dimensions are the actual physical dimensions of the brick with the mortar required on a header face, a stretcher face and a bed. The work dimensions are the size of a brick made. It is also called the nominal size of a brick. The size of the brick may be slightly different due to shrinkage or distortion due to cooking, etc. An example of a coordination measure commonly used for bricks in the United Kingdom is:[4][5][6] Bricks 215 mm in size × 102.5 mm × 65 mm; Mortar beds and perpends of a uniform of 10 mm. In this case, the coordination measure works because the length of a single brick (215 mm) is equal to the total width of a brick (102.5 mm) plus a perpend (10 mm) plus the width of a second brick (102.5 mm). There are many other brick sizes around the world, and many of them use this same principle of coordination. Terminology Faces of bricks As the most common bricks are rectangular prisms, six surfaces are named as follows: Upper and lower surfaces are called End Beds or narrow surfaces are called headers or headers Or headers The sides or wider surfaces are called stretchers or stretcher tracks[7] Mortar Terminology- showing perpends and bed. The mortar placed between the bricks is also given distinct names regarding their position. Mortar placed horizontally below or above a brick is called a bed, and the mortar placed vertically between the bricks is called a perpend. Solid Brick Frog Brick Simple Brick with Two Frogs Cell Brick Perforated Brick A brick made with straight dimensions is called solid brick. Bricks can have a depression on both beds or on a single bed. The depression is called a frog, and the bricks are known as frogged bricks. Frogs can be deep or shallow, but should never exceed 20% of the total brick volume. Cell bricks have depressions exceeding 20% of the volume of brick. The perforated bricks have holes through the brick from bed to bed, cutting it all the way. Most of the building standards and good practices recommend that the volume of holes should not exceed 20% of the total volume of the brick. [8] Brick parts include bricks, beds and perpends. The bed is the mortar on which a brick is laid. [9] A perpend is a vertical joint between two bricks and is usually— but not always — filled with mortar. [10] A face brick is a better quality brick, designed to be used in visible exterior surfaces in the face-work, as opposed to a fill brick internal parts of the wall, or where the surface should be covered with stucco or a similar coating. Orientation Six positions A brick is classified according to how it is laid and how the exposed face is oriented in relation to the face of the finished wall. Stretcher or stretching brick A flat brick with its long, narrow side exposed. [11] Header or head brick A flat-laid brick with its exposed width. [11] Soldier A brick laid vertically with its long narrow side exposed. [12] Sailor A brick laid vertically with the wide face of the brick exposed. [13] Rowlock A brick laid on the long narrow side with the short end of the brick exposed. [14] Shiner or line stretcher A brick laid on the long narrow side with the wide face of the exposed brick. [15] Cutting The practice of laying real-life bricks that are not cut as much as possible gives brick its maximum possible strength. In the diagrams below, these uncut full-size bricks are coloured as follows: Stretcher header From time to time, although a brick must be cut to fit a given space, or to be the right shape to fulfill a particular purpose such as generating a shift — called a turn — at the beginning of a course. [16] In some cases, these special shapes or sizes are manufactured. In the diagrams below, some of the cuts most commonly used to generate a turn are colored as follows: The three-quarter bat, which stretches a brick cut three-quarters of its length, and is laid flat with its long, narrow side exposed. Three-quarters bat, head A brick cut three-quarters of its length, and laid flat with its short exposed side. Half-bat A brick cut in half along its entire length, and laid flat. Nearest Queen A brick cut in half at the bottom of its width, and laid with its smallest face exposed and standing vertically. A closer queen is often used to create a tower. [17] Less frequently used cuts are all colored as follows: Bat Quarter A brick cut to a quarter of its length. Three-quarters queen closer A nearest queen cut three-quarters of its length. King closer A brick with a cut corner, leaving a head face half its standard width. [18] Liaison An almost universal rule in masonry is that perpends should not be contiguous in all courses. [19] Walls, running linearly and extending upwards, may be of varying depth or thickness. Typically, the bricks are also laid running linearly and extending upwards, forming wythes or leaves. It is as important as with the perpends to bind these leaves together. Historically, dominant to consolidate the leaves together was to lay bricks through them, rather than run linearly. [clarification needed] The brick observing either of these two conventions is described as being placed in one or the other bond. [20] [21] Thickness (and leaves) A sheet is as thick as the width of a brick, but a wall is said to be a thick if it as wide as the length of a brick. Therefore, a single-sheet wall is half a thickness of brick; a wall with the simplest cross-cutting masonry link possible is said to be a thick brick, and so on. [22] The thickness specified for a wall is determined by factors such as moisture sealing considerations, whether or not the wall has a cavity, load requirements, expenses and the time when the architect was working or working. [23] [24] The wall thickness specification has proven to be considerably diverse, and while some non-load-carrying brick walls may be as little as half a thick brick, let alone when shiners are laid stretcher link in partition walls, other brick walls are much thicker. The Monadnock Building in Chicago, for example, is a very large masonry building, and has brick walls nearly two meters thick at the base. [25] The majority of brick walls are however usually between one and three bricks thick. At these smaller wall thicknesses, distinct patterns have emerged allowing a structurally sound arrangement of the internal bricks to each specified specific thickness of the wall. Walls and ties The construction of the cave was the largest in the city of Lassa, which was the largest in the city of Lasse, in the north-east, where people were killed. A cavity wall consists of two completely discreet walls, separated by an air hole, which serves as both a barrier to humidity and heat. [26] [27] Typically the main loads taken by the foundations are carried there by the inner sheet, and the main functions of the outer sheet are to protect all weather conditions, and provide an appropriate aesthetic finish. Although there is no masonry connection between the leaves, their cross-sectional rigidity has yet to be guaranteed. [28] The device used to satisfy this need is the regular insertion of wall ties into the mortar beds of the cavity wall. [29] [30] Bonds carrying Mixed header courses and stretcher bonds Flemish bondsMonk bondSussex link Flemish bond Brickwork in Flemish Bond This link has a stretcher between the heads, with headers centered on stretchers in the courses below. [31] When a course begins with a stretcher, the course will normally end with a stretcher at the other end. The next class starts with a what header. For the second brick of the course, a queen approaches, generating the turn of the link. The third brick is a stretcher, and is, due to the turn, centered above the header below. This second course resumes its twin stretcher and head run, until the final pair is reached, after which a second and last closest queen is inserted as the penultimate brick, reflecting the arrangement at the beginning of the course, and duly closing the bond. Some examples of Flemish binding incorporate stretchers of one colour and headers of another. This effect is a product to treat the header face of the head bricks while the bricks are baked as part of the manufacturing process. Some header faces are exposed to wood smoke, generating a grey-blue color, while others simply vitrified until they reach a deeper blue color. Some headers have an icy face, caused by the use of salt in cooking. Sometimes staffordshire blue bricks are used for head bricks. [32] [33] Brickwork which appears as a Flemish link from both the front and the rear is double Flemish link, so called because of the front and rear duplication of the model. If the wall is arranged in such a way that the bricks at the back do not have this pattern, then masonry is said to be a single Flemish link. [34] Flemish bonding brick with a thickness of a brick is the repetitive pattern of a stretcher placed immediately at the back of the face stretcher, and then along the course, a

head. A turn (correct ride) is generated by a nearest queen on each alternative route: double Flemish link of the thickness of a brick: aerial sections of alternative routes (odd and even) and lateral elevation Color-coded planes highlight the bricks oriented in the east-west wall. An elevation for this east-west wall is shown on the right. A simple way to add a little width to the wall would be to add stretching bricks at the back, which would make a single Flemish link a brick and a half thick: Aerial sections of alternative courses (odd and even) single Flemish link of one and a half bricks thick Color-coded planes highlight the bricks facing in the east-west wall. An elevation for this east-west wall is shown on the right. For a double Flemish link of a thickness and a half of bricks, the oriented bricks and bricks behind the bricks face can be laid in groups of four bricks and half a bat. The half-bat is in the center of the group and the four bricks are placed towards the half-bat, in a square formation. These groups are placed next to each other for the length of a course, making the masonry a brick and a half thick. [35] [36] To preserve the link, it is necessary to place a three-quarter bat instead of a head following a stretcher at the corner of the wall. This fact has no bearing on the appearance of the wall; the choice of brick appears to the viewer as any ordinary header: Aerial plans of alternative courses (odd and even) double Flemish link of one and a half bricks thick Color-coded plans highlight the bricks oriented in the east-west wall. An elevation for this east-west wall is shown on the right. For a wall substantial, a head can be placed directly behind the head of the face, two other headers placed 90 degrees behind the stretcher of the face, and finally a stretcher placed on the back of these two headers. This pattern generates bricks of a complete thickness of two bricks: aerial sections of alternative courses (odd and even) double double Link of the thickness of two bricks Color-coded plans highlight the bricks oriented in the east-west wall. An elevation for this east-west wall is shown on the right. Aerial sections of alternative courses (odd and even) double Flemish link of the thickness of two and a half bricks Color-coded plans highlight the bricks oriented in the east-west wall. An elevation for this east-west wall is shown on the right. For an even more substantial wall, two headers can be placed directly behind the head of the face, two other pairs of headers placed 90 degrees behind the face stretcher, and finally a stretcher placed on the back of these four headers. This pattern generates bricks of a complete thickness of three bricks: aerial sections of alternative courtyards (odd and even) double Flemish link of the thickness of three bricks Color-coded plans highlight the bricks oriented in the east-west wall. An elevation for this east-west wall is shown on the right. Monk bond Monk bond variationsNew Malden Library, Kingston upon Thames, Greater London.Private building, Solna, Sweden.Pyramids highlighted. This link has two stretchers between each head with the headers centered on the perpend between the two stretchers in the course below in the most symmetrical form of the bond. [37] The wide variety of monk binding patterns allow many possible arrangements for the ants, and many possible arrangements to generate a trick. A brick what can be a stretcher, a three-quarter bat, or a head. Queen closers can be used next to the quoins, but the practice is not mandatory. Raking monk bond Monk bond can however take one of a number of arrangements for the amazing course. Removing bricks in these often very irregular sweeping patterns can be a difficult task for the mason to maintain properly while building a wall whose courtyards are partially obscured by scaffolding, and interrupted by door or window openings, or other link-disturbance obstacles. If the mason frequently stops to check that the bricks are properly laid out, then masonry in a monk raking link can be expensive to build. [38] From time to time, masonry in such a sweeping monk bond may contain minor errors in the header and stretcher alignment, some of which may have been silently corrected by incorporating a compensatory irregularity into the masonry in a course higher up in the wall. Despite these complexities and the associated costs, the link has proved to be a common choice for brick construction in northern Europe. Monk-linked raking courses can, for example, be to generate diagonal lines of stretchers. One method to achieve this effect is to use a sequence of repetitive courses with the astounding back-and-forth header. In this grouping, a header appears at some point in the first course of the group. In the next course upwards, a head is shifted by a length and a half of stretcher stretcher to the left of the header in the course below, and then in the third course, a header is shifted by a stretcher length to the right of the header in the middle course. This swing with headers, one and a half on the left, and one on the right, generates the appearance of stretcher lines running from the upper left side of the wall to the bottom right. Such an example of a rattling monk binding arrangement is shown in the library of New Malden, Kingston upon Thames, Greater London. Elsewhere, monk-linked raking courses can be shifted to generate a subtle appearance of diagonal pyramid-shaped recesses. Such an arrangement appears in the image here of the building in Solna, Sweden. Many other particular adjustments to the course alignment exist in the monk link, generating a variety of visual effects that differ in detail, but often have the effect of directing a diagonal viewing eye down the wall. [39] Aerial plan for other monk liaison courses of the thickness of a brick Color-coded plans highlight the bricks oriented in the east-west wall. An elevation for this east-west wall is shown on the right. Sussex bond This link has three stretchers between each head, with the headers centered above the midpoint of three stretchers in the course below. [40] The horizontally extended proportion of the link is suitable for long stretches of masonry such as garden walls or brick running over a ribbon window; conversely, the link is less suited to an area occupied by many features, such as a Georgian façade. The relatively infrequent use of headers is used to make sussex one of the cheapest obligations in which to build a wall, as it allows the mason to proceed quickly to run after the race of three stretchers at a time. [41] A stretch course by English title course bonds English cross bond English cross bond Two cross bond One of the two types of courses in this bond family is called a stretching course, and this usually includes nothing but stretchers in the face of what. The other type of course is the course of course, and this usually consists of headers, with two approach queen - one by the whatn header at each end - to generate the link. [42] English link This link has alternating stretching and cape courses, with headers centered on the midpoint of stretchers, and perpends in each alternate course aligned. Queen approaches appear as the second brick, and the penultimate brick in the head courses. [43] [44] A muted color scheme for casual headers is sometimes used in the English link to lend a subtle texture to masonry. these patterns include blue-grey headers among otherwise red bricks — seen in southern England — and light brown headers in a dark brown wall, more commonly found in parts of northern England. [45] Harappan architecture in South Asia was the first use, anywhere in the world, from the so-called English link in construction with bricks. An ancient example of alternating course of headers and stretchers, is located on Malta. The ruins of the Ggantija temple on the island of Gozo consist of two temples and a surrounding wall dating from the Neolithic period (3600-250 BC); some stones are as long as 5 meters weighing more than 50 tons. [46] [47] Aerial plan for other English-thick-thick-brick-shaped plans highlight the bricks facing in the east-west wall. An elevation for this east-west wall is shown on the right. Aerial map for other one-and-a-half-brick English liaison courses Color-coded plans highlight bricks oriented in the east-west wall. An elevation for this east-west wall is shown on the right. Aerial map for other English liaison courses of the thickness of two bricks Color-coded plans highlight the bricks oriented in the east-west wall. An elevation for this east-west wall is shown on the right. Dutch English Cross Bond Bond, Linacre College, Oxford. This link also has alternative stretching and cape courses. However, while the course of course is identical to those found in the standard English link, the stretching routes alternate between a course composed entirely of stretchers, and a course consisting of stretchers half shifted from the stretchers two courses above or below, due to a header placed just before the quins at each end. [48] [49] The link is widely found in northern France, Belgium and the Netherlands. [50] Large areas of English cross-binding may appear to have a twill-like characteristic, an effect caused by the uninterrupted series of perpends moving diagonally down the bond. Dutch Bond This obligation is exactly like the English cross bond, except in the generation of the tour to the whats. In the Dutch link, all the quoins are three-quarters bats - placed alternately stretching and head orientation with successive courses - and no use all that is made of the queen comes close. [51] For the Dutch, it is simply a variation of what they call a cross-link. [52] Two or more stretching courses per title course To rake English garden wall link Scottish bond bond American link Link English garden wall this link has three course of stretchers between each course of heads. [53] For the standard English garden wall link, heads are used as whatns for the middle stretch course in order to generate the turn, with queen reconciliations as the penultimate brick at each end of the head courses. A more what's going on and getting closer to the queen is needed to reach the turn for a raking English garden wall link. The Cape Course in English garden wall link sometimes features bricks of a different color from its surrounding stretchers. In English chalk districts, flint is replaced by stretchers, and headers are a lacing course. [45] Scottish Bond This has five stretcher classes between each header course. The turn is generated by the use of the so whats heads for the numbered stretching courses, given the previous course of course, with queen closers as the penultimate brick at each end of the course of the course. American, or American Common Liaison Obligation, 5th Ave, Harlem, New York This link can have between three and nine stretcher courts between each head course. Six is the most common number of stretcher classes. Headers are used as whatns for numbered stretching courses, counting from the previous heading course, in order to achieve the necessary offside in a standard American link, with queen like penultimate brick at each end of the head courses. The Clarke-Palmore Brick House in Henrico County, in Virginia, has a lower level built in 1819 described as the American link of three to five stretching courses between each head course, and a higher level built in 1855 with American link of six to seven stretching courses between each course of cape. [54] Only stretching or head course stretcher obligation A stretcher link rake Head Obligation All bricks in this binding are headers, but for the three-quarter tower-generating bat that compensates each successive course with a half head. The header link is often used on curved walls with a small radius of curvature. In Lewes, Sussex, England United Kingdom many small buildings are built in this link, using blue bricks and glazed surfaces. [55] [56] Stretcher, or operating link All the bricks in this link are stretchers, with the bricks in each successive course shifted by a half-stretcher. Headers are used as whatns on alternating stretching courses in order to get the necessary offside. This is the simplest repetition model, and will create a wall only half a brick thick. Such a thin wall is not stable enough to be self-contained and must be attached to a support structure. This practice is common in modern buildings, where bricks glued on stretchers can be the outer face of a cavity wall, or the cladding of a framed wooden or steel structure. [57] Bond stretcher sweeping also consists entirely of stretcher courses, but with the bricks in each successive course shifted into a model other than that of the standard stretcher link. [58] One or more stretching courses per course alternating Flemish stretcher stretcher link Flemish stretcher link link pulls classes of stretchers and headers alternately laid, with a number of stretchers course alone. Masonry in this link may have between one and four courses stretchers at a course after the Flemish way. [37] [59] Stretchers' classes are often but not always staggered in a sweeping pattern. Mixed rowlocks and shiners Rat-trap link Rat-trap link Brick wall laid in rat-trap link photographed near Angelsea of Angelsea Wivenhoe, Essex, England. Rat-trap bond (also Chinese bond) observes much the same pattern as the Flemish link, but consists of oars and shiners instead of headers and stretchers. This gives a wall with an internal cavity bridged by the rows, hence the reference to rat traps. [60] A Brilliant Course per Cape Course Dearne's Link Dearne's Link is substantially the same as the English bond, but uses shiners instead of stretchers. [61] Unloaded Bonds Mixed and Marine Shiner Course A single basket weaving bond Double basket weave bond 90 herringbone bond 45 herringbone bond 45 herringbone bond 45 herringbone bond 45 herringbone bond 45 herringbone bond, Canterbury, UK A row of the unique basket weaving link includes pairs of sailors seated side by side, crowned with a shiny, alternating with pairs of sailors sitting side by side at the top of a shiner. The following lines are identical and aligned with the ones above. [62] Double basket weaving bond A row of double basket weaving link includes pairs of shiners placed on top of each other, alternating with pairs of sailors laid side by side. The next line is staggered so that the pair of shiners is below the pair of sailors in the row above. The result is bricks arranged in pairs in a square grid so that the join between each pair is perpendicular to the join of the four pairs around it. [58] Herring Bone Requirement Main Article: Opus spicatum The herring bone pattern (opus spicatum) made by placing soldiers next to stretchers or vice versa (i.e. perpendicular header) making L shapes, nesting each L in the same laying order. Thin bricks are more common. The pattern is usually rotated 45 degrees to create a completely vertical succession (plumb) of forms. It follows the left or right brick forms the tip of the v in any wall. Herring bone is sometimes used as a filling in wood-frame buildings. [58] Brickwork built around square bricks of fractional size Pinwheel bond Della Robbia link Pinwheel obligation Pinwheel bond East made of four bricks surrounding a half square brick, repeated in a square grid. [58] Della Robbia Liaison A model made of four bricks surrounding a square brick, a quarter the size of half a brick. It is designed to look like a woven fabric. [58] Another similar model is called the interlacing link. [63] Flemish diagonal bond of layers, St John's College, Cambridge Flemish diagonal brickwork bond formed in a diamond pattern is called layers. The Flemish diagonal link the Flemish diagonal link includes a complex model of stretcher route alternating with courses of one or two between the headers, at various shifts such as more than ten courses appear a diamond-shaped pattern. Moisture-proof course Main article: Rising moisture can rise in a building from the foundation of a wall or gain entry into a building from a wetland, where it meets a solid wall. The obvious result of this process is that Wet. One of the many methods of resisting such water infiltration is to build the wall with several low courtyards of dense engineering bricks such as staffordshire blue bricks. This moisture-sealing method appears as a distinctive marine blue band running around the circumference of a building. It is only partially effective, because despite the lower courses of the brick being more resistant to moisture from the mortar bedding and perpends joining the bricks remain permeable. [64] See also Brick Expressionism Ceramic Building Materials - Archaeological Term for Baked Clay Building Materials Construction - Building or Assembly Process of a Building or Glossary Infrastructure of British Masonry - List of Terms of Masonry and Their Meanings - Building Structures from Individual Units of Stone, Brick , or Block Tuckpointing References - Joseph Moxon. Exercises Mechanick: Gold, The Doctrine of Handy-Works. Applied to the arts of Smithing, Carpentry, Carpentry, Turning, Bricklaying. Printed for Daniel Midwinter and Thomas Leigh. 1703. London. Page 129. Three or four or five brick classes to put down. - Nicholson. by a courtyard, in walls, means the bricks contained between two parallel planes on the horizon, and completed by the faces of the wall. The thickness is that of a brick with mortar. The mass formed by bricks laid in concentric order, for arches or vaults, is also called courtyard. Fleming, Eric (2006). Construction technology. United Kingdom: Blackwell Publishing Ltd. 2. ISBN 1-4051-0210-1. Brunskill, 39. British Standard 3921 from 1969, gave dimensions of 215 mm by 102.5 mm by 65 mm [...]. - British Standards Institution. Specification if it is for masonry units. Part 1: Clay masonry units. BSI, London, 2003, BS EN 771. The Compressive Strength of Modern Earth Masonry, Andrew Heath, Mike Lawrence, Peter Walker and Clyde Fourie. BRE Centre for Innovative Construction Materials, University of Bath and Natural Building Technologies (NBT). Acts of the 11th International Conference on Unconventional Materials and Technologies (NOCMAT 2009). 6-9 September 2009, Bath, United Kingdom. All the masonry units on earth were meant to be standard brick size (215x102.5x65mm) if they were pulled, but because they did not have any further narrowing of the cooking, the average size was 223x106x67mm. - Fleming, Eric (2006). Construction technology. United Kingdom: Blackwell Publishing Ltd. ISBN 1-4051-0210-1. Fleming, Eric (2006). Construction technology. United Kingdom: Blackwell Publishing Ltd. ISBN 1-4051-0210-1. Nicholson, 166. « undersized bricks when placed in any type of work. Reports of craftsmen chosen by a committee appointed by the board of the Society of the Arts to visit the Paris World's Fair, 1867. Published for the Society for the Encouragement of Arts, Manufactures and Commerce. Posted by Bell and Daldy, York York Covent Garden, London. Printed by W. Trounce, Cursitor Street, Chancery Lane, London. Part 1. Bricklaying by George Howell. Page 194. The beauty of the masonry will depend very much on the 'perpends' being perfectly preserved, that is, the perfect regularity of the perpendicular joints up to the building. - a b John Houghton. A collection for the improvement of livestock and trade. Number 74. Posted by Randal Taylor near Stationers-Hall. London. A brick wall one and a half feet thick is usually made by stretchers and headers, that is, by laying a brick on the outside side, in order to have the narrowest side of it to see longways, and the next to have only the end seen, and the brick lying on the wide side, and so on, a stretcher and a header. Building construction. Types of construction, materials and cost estimates. New York: Wiley. London: Chapman and Hall. Page 130. Belt courts and flat arches can be formed of bricks (s) set on the end with the narrow side exposed. These bricks are called soldiers. Sovinski, 43. Brick positions oriented in a horizontal alignment are called stretcher, header, rowlock stretcher, and rowlock. A line stretcher is sometimes called a shiner. The two corresponding vertical orientations are the soldier and sailor positions. Samuel Y. Harris. Pathology of the building. Wiley. New York City. Page 212. E short face, or the end laid horizontally, is a header; vertically, a rowlock. Sovinski, 43. Brick positions oriented in a horizontal alignment are called stretcher, header, rowlock stretcher, and rowlock. A line stretcher is sometimes called a shiner. Charles F. Mitchell. Building construction. Part 1. First step or elementary course. Second edition — Revised. Posted by B.T. Batsford, 52 High Holborn. Page 22. Encyclopia Britannica. BRICKWORK. [...] parts of a brick [...] half a head wide, [...] are called queen closers[.] Charles F. Mitchell. Building construction. Part 1. First step or elementary course. Second edition — Revised. Posted by B.T. Batsford, 52 High Holborn. Page 18. King closers are cut bricks so that one end is half the width of a brick, and [are] used in positions where the widest width at the back would add force to the obligation [...]. - Nicholson, p. 167. [...] an arrangement, or a combination of bricks when placed on top of each other, [such] that the perpendicular articulation formed by two adjacent bricks can, at any time, be covered by the centre (or almost) of a brick immediately placed on the joint, which means that the closest approximation of solidity will be achieved that these materials are capable of producing. Nicholson, 347. ES BRIQUES are placed in a varied but regular form of connection, or Bond, as exposed in the LXXXV plate. - Nicholson, p. 329. ONC.—That regular regular slamming the stones over each other, during the realization of the work, which forms an inseparable mass of building. CITBCONSTRUCTION INDUSTRY TRAINING BOARDTraining WorkbookSetting Out BrickworkPositioning Ranging Lines, Gauge, Dry Bonding, Broken BondingWB 272 Construction Industry Training Board, Bircham Newton, Kings Lynn, Norfolk PE31 6RH. ISBN 185751095X. Page 35-37. The terms of wall thickness refer to a stretcher dimension of a brick. Wall (A) [photo] is called a half brick wall. Wall (B) [photo] is called a brick wall [...]. This wall is a half-brick thick wall [...]. This wall is a wall of a thick brick [...]. Bricks and bricks. Cecil C. Handisyde and Barry A. Haseltine. The Brick Development Association. 19 Grafton Street, London, W1X 3LE. Page 68. Old buildings with solid walls have been accepted as 'waterproof', often when the bricks are only 9 inches thick. Now it is generally accepted that solid walls less than a thickness of brick and a half are inadequate. Code of Practice 121 still includes a brick thickness wall not reserved as acceptable for sheltered positions, but this seems a dubious recommendation. The walling of a brick thickness [one and a half] should be satisfactory for the sheltered positions and may be sufficient for moderate exposure. Emmitt, 206. Under exposed positions such as heights and near the coast, a 2B thick wall may be needed to withstand penetration inside the faces [...]. In positions of very severe exposure to wind-driven rain, such as on open heights facing the prevailing wind and on the coast facing the open sea, it is necessary to protect solid walls and cavity walls with an exterior coating. Fuller, Chicago Tribune, December 7, 1958. Denzil Nield. Walls and wall faces. Spon, London. Page 145. Cavity walls... are increasingly built with hollow blocks or other materials instead of bricks for the inner sheet. New civil engineer. October 3, 1991. Thomas Telford Ltd. London. Advertising. Single-leaf wall with vertical and lateral load. - Emmitt, p. 7 - Emmitt, pp. 232, 233. The first cavity walls were built with bonding bricks laid through the cavity inside to tie the two sheets together. [...] Later, iron fasteners were used to bind the two leaves together. David Yeomans. Construction Since 1900: Materials. BT Batsford Ltd, 583 Fulham Road, London, SW6 5BY. ISBN 0713466847. Page 60. In 1974, much of the outer sheet of a wall of a complete school in Newnham collapsed revealing an absence links over a considerable area [and] in 1983, a much larger section of a wall at Plymouth Polytechnic collapsed due to corrosion of the cavity ties. Smeaton, 29-30. The two main methods of masonry are repeatedly called the English and Flemish link. [...] The Flemish link consists of placing a header and a stretcher throughout each course. Brunskill, 57-58. Ark Review, 233. Brunskill, 91. SINGLE FLEMISH BOND: gives the appearance of Flemish Bond on the outside of only a wall more than 9 inches thick. The same appearance on both the inside and outside is given by DOUBLE FLAMAND BOND. Nicholson, 102. [...] the bricks are arranged on the same side of the wall, the tail of the headers being placed adjacent to each other, in order to form square spaces in the core of the wall for half-bricks. Charles F. Mitchell. Building construction. Part 1. First step or elementary course. Second edition — Revised. Posted by B.T. Batsford, 52 High Holborn. Page 25, Figures 37 and 38. a b The Dictionary of Art. Grove. Volume 4, Biardeau to Breggemann. Edited by Jane Turner. Macmillan Publishers Limited. ISBN 1884446000. Page 769. Ark Review, 242. THE LINK OF MASONRY. P.M. Stratton. An extra cost on Flemish must be borne for labour on the Monk bond and its derivatives, because the process is not as simple as Flemish, and the masons have to stop and think more frequently. - Arch. Review, p. 241. THE LINK OF MASONRY. P.M. Stratton. Monk link [...] is popular in northern Europe. Two stretchers are followed by a header in each course, the headers being so arranged that the verticality of their axial lines is not apparent, and a striking result is obtained from diagonal lines of stretchers, which resemble a series of crows or cantilevers embedded in the wall. Lloyd, 440. FLEMISH GARDEN WALL OR SUSSEX BOND. Three stretchers, then a head in each course. Arch. Review, 241. THE LINK OF MASONRY. P.M. Stratton. Charles F. Mitchell. Building construction. Part 1. First step or elementary course. Second edition — Revised. Posted by B.T. Batsford, 52 High Holborn. Page 23. Smeaton, 29-30. The two main methods of masonry are repeatedly called English and the Flemish link.... The English link consists of alternating courses of headers and stretchers; thus, a course is formed with headers, that is, with bricks crossing the wall; the next with stretchers, i.e. with bricks having their length in the same direction as that of the wall[.] Charles F. Mitchell. Building construction. Part 1. First step or elementary course. Second edition — Revised. Posted by B.T. Batsford, 52 High Holborn. Page 21, Figures 28 and 29. a b Arch. Review, 242. THE LINK OF MASONRY. P.M. Stratton. Archived document. Archived from the original on 2017-07-31. Preview 2017-07-31. (7. Ggantija in Malta) - INSAP 2. www.insap.org. Archived of the original of June 7, 2017. Extract from April 28, 2018. Ching, Francis (1995). A visual dictionary of architecture. Wiley. ISBN 0-471-28451-3. Lloyd, 440. ENGLISH CROSS BOND. Stretchers breaking joint. Seal. Second brick of alternative stretching courses is a header. Brunskill, 50. Charles F. Mitchell. Building construction. Part 1. 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