WIRE TIE AND HARDWARE SYSTEM

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ABSTRACT

A wire tie and a hardware system for supporting a masonry veneer wall with a structural support element. The wire tie is formed from a unitary wire body having a pair of central portions connected with each other by a connecting portion at a first end, and connected with flange portions and reverse extension portions at a second end. The hardware system also includes an anchor for attaching the wire tie to the structural support element.
WIRE TIE AND HARDWARE SYSTEM

FIELD OF THE INVENTION

[0001] The present invention relates generally to a wire tie and hardware system. More particularly, the present invention relates to a wire tie, and a hardware system having a wire tie and an anchor, for supporting a masonry veneer to a structural support element.

BACKGROUND

[0002] Masonry veneer walls must be supported by attachment to an inner structural support element. The attachment must be sturdy to support the weight of the masonry veneer, but also must allow for some flexibility and sealing so that wind, temperature changes, and other environmental conditions do not cause cracking or other damage the veneer wall.

[0003] U.S. Pat. No. 4,473,984, issued to Lopez, and U.S. Pat. No. 4,764,069, issued to Reinwell et al., each disclose hardware systems for attaching a masonry veneer to a structural support element. The systems in these patents include a threaded anchor secured to the support element, and a wire tie. The wire tie engages an aperture in the anchor at one of its ends, and the wire tie is submerged within the mortar of the masonry veneer wall at its other end. The wire tie has some degree of flexibility in its engagement with the anchor, thereby allowing for easier installation and for preventing damage to the masonry veneer, while still providing adequate support and establishing a positive lateral load connection between the veneer wall and the support element.

[0004] U.S. Pat. No. 4,875,319, issued to Hohmann, also discloses a hardware system for attaching a masonry veneer to a structural support element. The hardware system in the Hohmann patent is specifically adapted for use in seismic zones. The system includes an anchor plate attached to a structural wall, a triangular wire tie attached to the anchor and to the veneer, and a clip member and rod member for providing further stability.

[0005] One problem with the hardware system disclosed in these patents is that the relatively closed shape of the triangular wire tie prevents it from being easily inserted into the aperture of the anchor during construction of the veneer wall. Another problem with the triangular-shaped wire tie is that the horizontal movement of the masonry veneer is somewhat reduced, thereby subjecting the veneer to possible damage when it expands or contracts due to environmental conditions. One solution to these problems was to provide a new shape of the wire tie, a so-called “Single Wire Tie,” manufactured by Heckmann Building Products, Inc. of Chicago, Ill. However, while the Single Wire Tie allowed for easier insertion and for horizontal movement of the veneer, it does not meet building codes in some jurisdictions.

[0006] Accordingly, there remains a need for an improved wire tie and hardware system for supporting masonry veneer walls.

SUMMARY

[0007] In one aspect of the invention, a wire tie for use with a masonry veneer support system includes a wire body including a pair of substantially parallel central portions each having a respective first end and a second end, a pair of flange portions, and a loop portion. The first ends of each respective central portion are connected with one another by the loop portion. The second end of each respective central portion is connected with a respective flange portion of the pair of flange portions, and each flange portion extends non-parallel to its respective central portion. The pair of central portions and the flange portions generally define a plane, and the loop portion is generally non-planar with the plane.

[0008] According to another aspect of the invention, a wire tie for use with a masonry veneer support system includes a wire body having a pair of substantially parallel central portions, a pair of flange portions, a pair of reverse extensions portions, and a connecting portion. The central portions have first and second ends. The first end of each respective central portion are connected with one another by the connecting portion. The second end of each respective central portion is connected with a respective flange portion of the pair of flange portions. Each flange portion extends non-parallel to its respective central portion. Each flange portion also is connected with a respective reverse extension portion of the pair of reverse extension portions at an end of the respective flange portion opposite an end to which the respective reverse extension portion is connected.

[0009] In yet another aspect of the invention, a hardware system for supporting a masonry veneer wall by attachment to a structural element includes an anchor and a wire tie. The anchor includes a threaded portion, a barreled portion attached with said threaded portion, and a head portion attached with the barreled portion. The head portion has an aperture therethrough. The wire tie includes a pair of substantially parallel central portions each having a respective first end and a second end, a pair of flange portions, and a loop portion. The first ends of each respective central portion are connected with one another by the loop portion. The second end of each respective central portion is connected with a respective flange portion, and each flange portion extends non-parallel to its respective central portion. The wire tie is adapted and sized to be insertable through the aperture of the head portion.

[0010] According to another aspect of the invention, a hardware system for supporting a masonry veneer wall by attachment with a structural element includes an anchor and a wire tie. The anchor is adapted for attachment to a structural element, and includes one or more structural element engaging portions and a wire retaining member. The wire retaining member is spaced from the one or more structural element engaging portions so as to form passage. The wire tie includes a pair of substantially parallel central portions each having a respective first end and a second end, a pair of flange portions, a pair of reverse extension portions, and a connecting portion. The first ends of each respective central portion are connected with one another by the connecting portion. The second end of each respective central portion is connected with a respective flange portion, and each flange portion extends non-parallel to its respective central portion. Each flange portion also is connected with a respective reverse extension portion of the pair of reverse extension portions at an end of the respective flange portion opposite an end to which the respective reverse extension portion is connected.
**BRIEF DESCRIPTION OF THE DRAWINGS**

[0011] FIG. 1 is a perspective view of one embodiment of a wire tie according to the present invention.

[0012] FIG. 2 is a side cross-sectional view of a hardware system including the wire tie of FIG. 1 and an anchor, the system shown supporting a masonry veneer wall.

[0013] FIG. 3 is a top cross-sectional view of the hardware system of FIG. 2.

[0014] FIG. 4 is a perspective view of a hardware system according to a second embodiment of the present invention.

[0015] FIG. 5 is a perspective view of a bracket member for use with the hardware system according to the second embodiment of the present invention.

[0016] FIG. 6 is a side cross-sectional view of a hardware system of FIG. 4, shown in use supporting a masonry veneer.

[0017] FIG. 7 is a top cross-sectional view of the hardware system of FIG. 6.

**DETAILED DESCRIPTION**

[0018] Referring now to the drawings, and initially to FIG. 1, a wire tie according to one embodiment of the present invention is shown generally at 10. The wire tie 10 is formed as a unitary wire body 12. The wire body 12 is preferably a metal, and in the most preferred embodiments, the wire body 12 is hot dip galvanized steel, mill galvanized steel, epoxy coated steel, or stainless steel. Before bending, the wire body 12 preferably is about 8-3/4 to 35-1/8 inches long, more preferably about 10-1/4 to about 24-1/4 inches long, and most preferably about 12-1/4 to 18-1/4 inches long. The wire body 12 preferably has a generally circular cross-section throughout, with a diameter of about 3/8 to 1/2 inch, and more preferably, about 5/8 inch. However, other cross-sections, such as rectangular cross-sections, may also be used.

[0019] The wire body 12 is bent into a plurality of portions integrally connected with each other, including a pair of central portions 14 and 16, a loop portion 28, a pair of flange portions 36 and 38, and a pair of reverse extension portions 42 and 44. The central portions 14, 16 have first ends 18, 20, respectively, which are connected with each other by the loop portion 28. The second ends 22, 24 of the respective central portions 14, 16 are connected with respective flange portions 36, 38. The reverse extension portions 42, 44 are connected with each respective flange portion 36, 38, at an end opposite the end to which the respective central portions 14, 16 are connected.

[0020] In the preferred embodiment, the central portions 14, 16 are substantially parallel to each other and generally have the same length. Preferably, the central portions 14, 16 are about 2 to 6 inches in length, more preferably about 3 to 5 inches in length.

[0021] The flange portions 36, 38 extend outwardly in opposite directions from one another and are non-parallel with their respective central portions 14, 16. Preferably, the flange portions 36, 38 are substantially perpendicular to their respective central portions 14, 16. The flange portions 36, 38 are preferably about 1 to about 5-1/2 inches in length, more preferably about 3/4 to about 2 inches in length, and most preferably about 1 inch.

[0022] The reverse extension portions 42, 44 generally extend from the flange portions 36, 38 back towards the end of the wire tie 10 having the first ends 18, 20 of the central portion 14, 16 and the loop portion 28. In the preferred embodiment of the invention, the reverse extension portions 42, 44 are substantially perpendicular to their respective flange portions 36, 38 and are generally parallel to the central portions 14, 16. Preferably, the reverse extension portions 42, 44 are about 5/8 inch to about 2 inches in length, and most preferably about 1 inch.

[0023] The loop portion 28 preferably is formed from three discrete portions, including leg portions 30, 34, and connecting portion 32. However, in alternate embodiments, the loop portion may be formed from a continuous curve, an inverted V-shape, or an inverted U-shape. Preferably, leg portions 30 and 34 are substantially perpendicular to the connecting portion 32. In the preferred embodiment, the leg portions 30, 34 each are about 3/4 to about 2 inches, more preferably about 1 to about 1-1/2, and most preferably about 1-1/4 inches. In the preferred embodiment, the connecting portion 32 is about 1/2 to about 2 inches, more preferably about 1 to about 1-1/2, and most preferably about 1-1/4 inches.

[0024] The central portion 14, the flange portion 36, and the reverse extension 42 generally define a J-shape, while the central portion 16, the flange portion 38, and the reverse extension 44 generally define a reverse J-shape. The central portions 14, 16, the flange portions 36, 38, and the reverse extension portions 42, 44 generally are co-planar and thus define a wire tie plane. In contrast, the loop portion 28 is not co-planar with the wire tie plane. In the preferred embodiment, the loop portion 28 is substantially perpendicular to the wire tie plane.

[0025] Referring now to FIGS. 2 and 3, a hardware system according to the present invention is shown generally at 48. For purposes of illustration, the hardware system 48 is shown in the drawings in one of its particular uses, for establishing a positive lateral load connection between an outer masonry veneer wall 110 and an inner structural support element 120. In the embodiment shown, the masonry veneer wall 110 is formed by masonry units 112 and 114, such as bricks, stones, or concrete blocks, which are joined to one another by mortar 116 or other cementitious material. In the embodiment shown, the inner structural support element 120 is covered by sheathing 130 on the surface 122 facing the masonry veneer 110. However, in alternate embodiments, the support element 120 may not be covered by a sheathing. In the embodiment shown, the inner structural supportive element 120 is a concrete wall, a steel beam, a concrete masonry unit, or a steel or wooden support stud.

[0026] The hardware system 48 includes the wire tie 10 and an anchor 98. Suitable anchors for use with the hardware system of the present invention are sold by Illinois Tool Works, Inc. of Glenview, Ill., under the trade name Tapcon® screw, and by Elco Industries, Inc. of Rockford, Ill., under the trade name Dri-Blu® screw. Other suitable anchors are disclosed in U.S. Pat. Nos. 4,473,984 and 4,764,069, both of which are incorporated herein by reference in their entirety. Briefly, the anchors suitable for the hardware system 48 include a threaded portion 50, a barrel portion 70, and a head portion 80. In the embodiment shown in FIGS. 2 and 3, the threaded portion 50 includes a central metal shank 52 formed with a self-drilling tip 54 and formed with a self-tapping machine thread 56. When the threaded portion 50 is driven by being rotated and advanced axially, the tip 52,
drills through the sheathing 130 and the structural element 120 and then the thread 54 screws and secures itself into the structural element 120. The threaded portion 50 is zinc electro plated steel, coated twice and baked in STAL-GARD®6, a modified polyester copolymer sold by Elco Industries, Inc. of Rockford, Ill.

[0027] The barrel portion 70 is generally cylindrical in shape and is formed integrally with an outer driving head portion 80 which, in the embodiment shown, is in the form of a flat, axially projecting tongue of generally rectangular shape and generally rectangular cross-section. The barrel portion 70 and the head portion 80 are preferably die cast from a zinc-aluminum alloy. A suitable zinc-aluminum alloy is Zamac 2, a 92% zinc alloy sold by Grand Rapids Alloy Inc. of Grand Rapids, Mich. The barrel portion 70 is sized according to the thickness of the sheathing 130. Preferably, the barrel portion 70 is about ½ to about 3 inches in length. Typically barrel portion lengths are ¾ inch, 1 inch, 1-½ inches, 2 inches, and 2-½ inches.

[0028] An axially extending threaded hole 72 is formed in the distal end of the barrel portion 70 and is sized to receive the outer end portion of a second threaded shank (not shown) of the threaded portion 50, which is separated from the first shank by flange 58. The threaded portion 50 is screwed snugly into the barrel portion 70 by hand before the threaded portion 50 is driven. During driving of the threaded portion 50, the barrel portion 70 drills through the sheathing 130 and forms an enlarged counterbore which receives the barrel portion 70 in the finally installed position of the threaded portion 50. The flange 58 formed between the two threaded shanks of the threaded portion 50 engages the outer side 122 of the support element 120 and the inner end of barrel portion 70 when the threaded portion 50 is fully tightened.

[0029] The barrel portion 70 also preferably includes cutting elements 76 which are uniquely shaped so as to enable the barrel portion 70 to drill a counterbore effectively through the sheathing 130. The head portion 80 preferably includes an enlarged, radially extending and circular flange 86 formed integrally between the tongue 82 and the barrel portion 70. When the anchor 95 is fully driven, the inner face of the flange 86 seats tightly against the outer side 132 of the sheathing 130 and thus serves as a washer to close off and seal the counterbore in the sheathing 130. For the flange 86 to effectively close off the counterbore, the diameter of the flange 86 should be significantly greater than the diameter of the barrel portion 70. In one specific embodiment of the anchor, the barrel portion 70 has a diameter of about ¾", while the flange 86 has a diameter of about 4/".

[0030] An aperture 84 (FIG. 3) is formed transversely through the driving tongue 82. The aperture 84 is sized and adapted to receive a portion of the wire tie 10. As shown in FIG. 3, the aperture 84 is generally oblong in shape and is oriented with its long edges extending parallel to and with its short edges extending transversely of the outer free end of the tongue 82.

[0031] The wire tie 10 and the aperture 84 are sized and adapted so that the wire body 12 may be inserted through the aperture 84, and manually manipulated so that the wire tie 10 generally is positioned relative to the head portion 80 such that the loop portion 28 extends through the aperture 84. Preferably, the wire tie 10 will be positioned such that one of the leg portions 30 or 34 will extend through the aperture 84. Thus, after the anchor 95 has been driven, the wire tie 10 is hooked through the aperture 84, manipulated into position, and then is placed in the wet mortar 116. Typically, at least 2 inches of the central portions 14 and 16, as well as the flange portions 36 and 38, and the reverse extension portion 42 and 44 will be set into the mortar 116. The length of the leg portion 30, 34 allows for some vertical adjustment during installation without allowing for excess mechanical play and deformation. When the mortar 116 sets up, the hardware system 48 forms a positive lateral load connection between the masonry veneer wall 110 and the inner supportive element 120.

[0032] The reverse extension portions 42, 44 significantly increase the magnitude of the pullout load that the wire tie 10 can withstand after it is installed. Without the reverse extension portions 42, 44, a relatively smaller pullout load would cause the flange portions 36, 38 to straighten relative to (run parallel to) the central portions 14, 16, and allow the wire tie 10 to be forcibly removed from the mortar 116. The reverse extension portions 42, 44 act to inhibit this straightening of the flange portions 36, 38, and therefore a relatively larger pullout load is needed to remove the wire tie 10 from the mortar 116.

[0033] FIGS. 4-7 illustrate an alternate embodiment of a wire tie and hardware system according to the present invention. The wire tie 210 is substantially similar to the wire tie 10 (FIG. 1), but does not include leg portions or a vertical loop, and is thus generally planar. The wire tie 210 is formed from a unitary wire body 212 that is bent into a plurality of portions integrally connected with each other, including a pair of central portions 214 and 216, a connecting portion 228, a pair of flange portions 236 and 238, and a pair of reverse extension portions 242 and 244. The central portions 214, 216 have first ends 218, 220, respectively, which are connected with each other by the connecting portion 228. The second ends 222, 224 of the respective central portions 214, 216 are connected with respective flange portions 236, 238. The reverse extension portions 242, 244 are connected with each respective flange portion 236, 238, at an end opposite the end to which the respective central portions 214, 216 are connected.

[0034] In the preferred embodiment, the central portions 214, 216 are substantially parallel to each other and generally have the same length. The flange portions 236, 238 extend outwardly in opposite directions from one another and are non-parallel with their respective central portions 214, 216. Preferably, the flange portions 236, 238 are substantially perpendicular to their respective central portions 214, 216. The reverse extension portions 242, 244 generally extend from the flange portions 236, 238 back towards the end of the wire tie 210 having the first ends 218, 220 of the central portion 214, 216 and the connecting portion 228. In the preferred embodiment of the invention, the reverse extension portions 242, 244 are substantially perpendicular to their respective flange portions 236, 238 and are generally parallel to the central portions 214, 216.

[0035] The portions of the wire tie 210 have the same preferred ranges of dimensions as their corresponding portions in the wire tie 10 (FIG. 1). The central portion 214, the flange portion 236, and the reverse extension 242 generally define a J-shape, while the central portion 216, the flange portion 238, and the reverse extension 244 generally define a reverse J-shape.

[0036] The wire tie 210 of the embodiment of FIGS. 4-7 is preferably used in a hardware system specifically designed for use in reducing damage to masonry veneers due to seismic events. As shown in FIG. 4, seismic hardware system 248 includes the wire tie 210 and an anchor 298. In
especially preferred embodiments, the hardware system also includes one or more bracket members 260 (FIG. 5), as described more thoroughly below.

[0037] The anchor 298 includes a backing plate member 272 and a wire retaining member 274. The wire retaining member 274 is preferably punched out from the central portion backing plate member 272 so as to result in a centrally disposed aperture 276. The wire retaining member 274 is thereby disposed in substantially parallel, spaced, but integral relationship with respect to the backing plate member 272. In alternate embodiments, the plate member 272 and wire retaining member 274 are not integral, but rather are made from entirely different pieces. An elongated passage 286 is formed between the wire retaining member 274 and the backing plate member 272 for securing the wire tie 210 in the horizontal direction (towards the veneer 310, FIG. 6), while allowing for some minimal play in the lateral direction, and for extensive slideability in the vertical direction. The backing plate member 272 includes structural element engaging portions 278, 280 provided with bores 282, 284, respectively, for attaching the anchor 298 to a structural element. The anchor 298 is preferably made from 10 to 20 gauge sheet metal, and more preferably, about 12 to 16 gauge sheet metal. The anchor 298 is preferably about 1 to 2 inches wide and about 4 to 8 inches long, and more preferably, about 1-1/2 to 1-3/4 inches wide and 5 to 7 inches long. An especially preferred anchor is the Screw-On Anchor Plate, Part No. 315-D, manufactured by Heckmann Building Products Inc. of Chicago, Ill.

[0038] In alternate embodiments of the invention, the anchor may not include a backing plate member, and instead includes an elongated strip of metal bent into structural element engaging portions and a wire retaining member. A suitable anchor according to this alternate embodiment of the invention is the Screw-On Anchor Strap, Part No. 315-C, manufactured by Heckmann Building Products, Inc. of Chicago, Ill.

[0039] Referring now to FIG. 6, the hardware system 248 is shown in the drawings in one of its particular uses, for establishing a positive lateral load connection between an outer masonry veneer 310 and an inner structural supportive element 320. In this embodiment shown, the masonry veneer wall 310 is formed by masonry units 312 and 314, such as bricks, stones, or concrete blocks, which are joined to one another by mortar 316 or other cementitious materials. In the embodiment shown, the inner structural supportive element 320 is a concrete wall, a steel beam, a concrete masonry unit, or a steel or wooden support stud.

[0040] The anchor 298 is attached to the structural element 320 by the fasteners 288. The fasteners suitable for attachment to the structural element 320 are chosen based upon the nature of the structural element. After the anchor 298 has been attached, the wire tie 210 is hooked through the elongated passage 286, manipulated into position, and then is placed in the wet mortar 316. As shown in FIG. 7 (in which masonry unit 312 has been removed for clarity), preferably at least 2 inches of the central portions 214 and 216, as well as the flange portions 236 and 238, and the reverse extension portions 242 and 244, will be set into the mortar 316.

[0041] As shown in FIG. 7, the hardware system 248 preferably also includes one or more bracket members 260. The bracket members 260 preferably made from 18 to 26 gauge sheet metal, and most preferably 22 gauge sheet metal. The bracket members 260 include a base portion 262, a tab portion 264 stamped out from the base portion 262, and a flange portion 266 preferably bent perpendicular to the base portion 262. The flange portion 266 includes an aperture 268 (FIG. 5) sized and adapted to receive a reverse extension portion 242 or 244 of the wire tie 210. The tab portion 264 is adapted and sized to engage an elongated rod member 269. The elongated rod member 269 extends through the mortar 316 and between all bracket members 260 for all wire ties 210 in the respective masonry unit layer of the masonry veneer. The elongated rod member 269 adds stability to the masonry veneer and protects against potentially damaging seismic events, and is usually required by building codes in seismic zones. Preferably, the elongated rod members are steel rods having a diameter of about 1/4" to about 1/2", and more preferably a diameter of about 3/8" to about 5/8". Suitable elongated rod members are manufactured by Heckmann Building Products Inc. of Chicago, Ill.

[0042] While the invention has been described in conjunction with a number of specific embodiments, it is to be understood that many alternatives, modifications and variations will be apparent to those skilled in the art in light of the foregoing description. Accordingly, this invention is intended to embrace all such alternatives, modifications and variations which fall within the spirit and scope of the appended claims.

1. A wire tie for use with a masonry veneer support system, comprising:
   a wire body including a pair of substantially parallel central portions each having a respective first end and a second end, a pair of flange portions, and a loop portion;
   said first ends of each respective central portion connected with one another by said loop portion; and said second end of each respective central portion connected with a respective flange portion of said pair of flange portions, each said flange portion extending non-parallel to its respective central portion;
   wherein said pair of central portions and said flange portions generally define a plane, and said loop portion is generally non-planar with said plane.

2. The wire tie of claim 1, wherein each said flange portion is substantially perpendicular to its respective central portion.

3. The wire tie of claim 1, wherein said flange portions are substantially co-linear to one another and extend outward oppositely from their respective central portions.

4. The wire tie of claim 1, wherein said loop portion extends substantially perpendicular to said plane.

5. The wire tie of claim 1, wherein said loop portion comprises a pair of leg portions connected with each other by a connecting portion, each of said leg portions connected with one of said central portions at said first end of said central portions.

6. The wire tie of claim 5, wherein each of said leg portions is substantially perpendicular to its respective central portion, and said connecting portion is substantially perpendicular to each of said leg portions.

7. The wire tie of claim 1, further comprising:
   a pair of extension portions, each extension portion of said pair of extension portions connected with an end of one
of said flange portions opposite an end to which said respective central portion is connected.

8. The wire tie of claim 7, wherein said extension portions are generally co-planar with said plane.

9. The wire tie of claim 8, wherein said extension portions are generally parallel to said central portions.

10. The wire tie of claim 9, wherein said extension portions extend generally back towards said first end of said central portions.

11. A wire tie for use with a masonry vencer support system, comprising:

a wire body including a pair of substantially parallel central portions each having a first end and a second end, a pair of flange portions, a pair of reverse extensions portions, and a connecting portion;

said first end of each respective central portion connected with one another by said connecting portion; said second end of each respective central portion connected with a respective flange portion of said pair of flange portions, each flange portion extending non-parallel to its respective central portion; each flange portion also connected with a respective reverse extension portion of said pair of said reverse extension portions at an end of said respective flange portion opposite an end to which the central portion is connected.

12. The wire tie of claim 11, wherein each said flange portion is substantially perpendicular to its respective central portion.

13. The wire tie of claim 12, wherein said flange portions are substantially co-linear to one another and extend outward oppositely from their respective central portions.

14. The wire tie of claim 13, wherein said extension portions are generally parallel to said central portions.

15. The wire tie of claim 14, wherein said extension portions extend generally back towards said first end of said central portions.

16. A hardware system for supporting a masonry vencer wall by attachment with a structural element, the system comprising:

an anchor including a threaded portion, a barrel portion attached with said threaded portion, and a head portion attached with said barrel portion; said head portion having an aperture there-through; and

a wire tie including a pair of substantially parallel central portions each having a respective first end and second end, a pair of flange portions, and a loop portion; said first ends of each respective central portion connected with one another by said loop portion; said second end of each respective central portion connected with a respective flange portion of said pair of flange portions, each flange portion extending non-parallel to its respective central portion,

wherein said wire tie is adapted and sized to be insertable through said aperture of said head portion.

17. The hardware system of claim 16, wherein said pair of central portions and said flange portions generally define a plane, and said loop portion is generally non-planar with said plane.

18. The hardware system of claim 17 wherein said loop portion comprises a pair of leg portions connected with each other by a connecting portion, each of said leg portions connected with one of said central portions at said first end of said central portions.

19. The hardware system of claim 17, wherein said wire tie and said anchor are positioned relative to one another such that one of said leg portions extends through said aperture.

20. The hardware system of claim 17, further comprising:

a pair of extension portions, each extension portion of said pair of extension portions connected with an end of one of said flange portions opposite an end to which said respective central portion is connected.

21. The hardware system of claim 20, wherein said extension portions extend generally back towards said first end of said central portions.

22. A hardware system for supporting a masonry vencer wall by attachment with a structural element, the system comprising:

an anchor adapted for attachment to a structural element, said anchor including at least one structural element engaging portion and a wire retaining member, said wire retaining member spaced from said at least one structural element engaging portion so as to form a passage;

a wire tie including a pair of substantially parallel central portions each having a respective first end and a second end, a pair of flange portions, a pair of reverse extension portions, and a connecting portion; said first ends of each respective central portion connected with one another by said connecting portion; said second end of each respective central portion connected with a respective flange portion of said pair of flange portions, each flange portion extending non-parallel to its respective central portion; and each flange portion also connected with a respective reverse extension portion of said pair of said reverse extension portions at an end of said respective flange portion opposite an end to which the central portion is connected, each reverse extension portion non-parallel to its respective flange portion;

wherein said wire tie is adapted and sized to be insertable through said passage of said anchor.

23. The hardware system of claim 22, wherein said at least one structural element engaging portion comprises a plate member.

24. The hardware system of claim 22, wherein said extension portions are generally parallel to said central portions.

25. The hardware system of claim 24, wherein said extension portions extend generally back towards said first end of said central portions.

26. The hardware system of claim 22, further comprising at least one bracket member; said bracket member having an aperture adapted to receive one of said reverse extension portions; said bracket member further adapted to engage an elongated rod member.

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