HY-TEK FASTENERS

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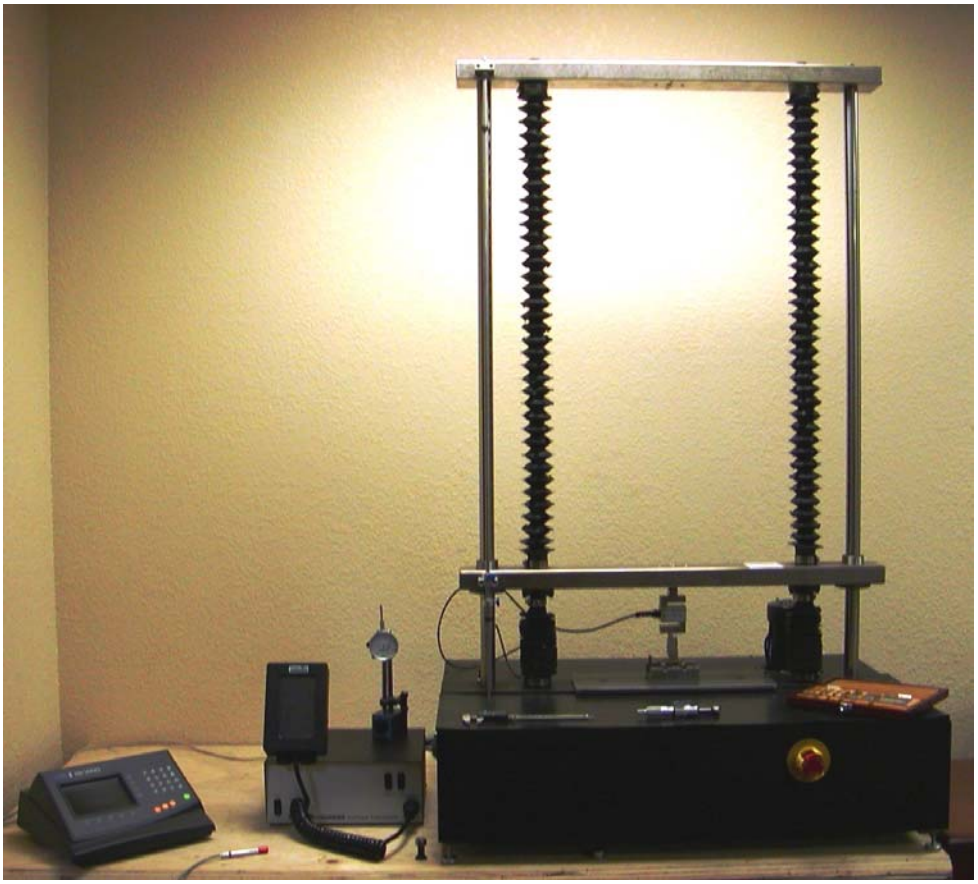

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Hy-Tek Nail Diameter [1]	Replacement
0.120 Screw Shank	8d Common (0.131)
0.135 Screw Shank	10d Common (0.148)
0.148 Screw Shank	16d Common (0.162)

Note:
[1] Minimum nail penetration into the main member must equal 10 times nail shank diameter (inches) for framing only.

Side Member Thickness (inches)	Nail Diameter (inch)	Hytek Nail Code	Nail Description	Application	Code
3/8	0.120	12016	1-3/4" x 0.120	DIAPHRAGM & SHEAR WALL	2006 IBC & IRC
7/16	0.120	12017	1-7/8" x 0.120		
15/32	0.120	12017	1-7/8" x 0.120		
	0.135	13520	2" x 0.135		
19/32	**0.120**	**12020**	**2" x 0.120**		
	0.135	13521	2-1/8" x 0.135		
23/32	**0.135**	**13522**	**2-1/4" x 0.135**		
1-1/8	0.135	13525	2-5/8" x 0.135		
1-1/2	**0.120**	**12026**	**2-3/4" x 0.120**	FRAMING ONLY [1]	
	0.135	**13530**	**3" x 0.135**		
	0.148	**14830**	**3" x 0.148**		
2-1/2	0.148	14840	4" x 0.148		
3-1/2	0.148	14850	5" x 0.148		

Note:
[1] Hytek Fasteners may be used an alternate fasteners for specific framing application referenced in Table 2304.9.1 of the IBC and Table R602.3(1) of the IRC.

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Diaphragm & Shear Wall Nails		Hytek 13522 [1, 5] ($2^1/_4$" x 0.135 Screw Shank)
Nail Types	2005 NDS Load Value (lbs)	ESR-2648 Load Value [2] (lbs)
8d common (0.131" x $2^1/_2$") smooth	74	103
10d common (0.148" x 3") smooth	88	
10d short (0.148" x $2^1/_4$") smooth		

Framing Nails		Hytek 14830 [1, 3, 4] (3" x 0.148 Screw Shank)
Nail Types	2005 NDS Load Value (lbs)	ESR-2648 Load Value [2] (lbs)
16d common (0.162" x $3^1/_2$") smooth	141	180
16d short common (0.162" x $3^1/_4$") smooth		
16d sinker (0.148" x $3^1/_4$") smooth	118	
16d (0.148" x $3^1/_2$") smooth		
12d common (0.148" x $3^1/_4$") smooth		
10d common (0.148" x 3") smooth		
16d box (0.135" x $3^1/_2$") smooth	103	
16d (0.135" x $3^1/_4$") smooth		
16d (0.131" x $3^1/_2$") smooth	97	
16d (0.131" x $3^1/_4$") smooth		
10d (0.131" x 3") smooth		
16d (0.128" x $3^1/_2$") smooth	93	
16d (0.128" x $3^1/_4$") smooth		
16d (0.120" x $3^1/_2$") smooth	81	
16d (0.120" x $3^1/_4$") smooth		
10d (0.120" x 3") smooth		

NOTES:
[1] Minimum nail penetration of $1^1/_2$" into the framing member is required for framing application.
[2] This value can only achieve if the screw shank nail is Hytek Fasteners.
[3] Hytek Fasteners may be used an alternate fasteners for specific framing application referenced in Table 2 304.9.1 of the IBC and Table R602.3(1) of the IRC.
[4] Maximum side member thickness is $1^1/_2$". Use longer fastener if the side member is greater than $1^1/_2$".
[5] Maximum side member thickness is 3/4". Use longer fastener if the side member is greater than 3/4".

ALLOWABLE SHEAR (POUNDS PER FOOT) FOR WOOD STRUCTURAL **PANEL DIAPHRAGMS** WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE[1] FOR WIND OR SEISMIC LOADING BASED ON THE 2006 IBC[6]

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PANEL GRADE	MINUMUM NOMINAL PANEL THICKNESS (inch)	NAIL TYPE	NAIL DESCRIPTION	NOMINAL WIDTH OF FRAMING MEMBERS AT ADJOINING PANEL EDGES AND BOUNDARIES (inches)[5]	BLOCKED DIAPHRAGMS				UNBLOCKED DIAPHRAGMS	
					FASTENERS SPACING (INCHES) AT DIAPHRAGM BOUNDARIES (ALL CASES) AT CONTINUOUS PANEL EDGES PARALLEL TO LOAD (CASES 3 & 4) AND AT ALL PANEL EDGES (CASES 5 & 6)[2]				FASTENERS SPACED 6 INCHES MAXIMUM AT SUPPORTED EDGES[2]	
					6	4	2 1/2 [3]	2 [3]	CASE 1	CASES 2, 3, 4, 5 & 6
					FASTENER SPACING (INCHES) AT OTHER PANEL EDGES (CASES 1, 2, 3 & 4)					
					6	6	4	3		
STRUCTURAL 1	3/8	8d Common	2 1/2" x 0.131	2	270	360	530	600	240	180
		Hytek 12020	2" x 0.120							
		8d Common	2 1/2" x 0.131	3	300	400	600	675	265	200
		Hytek 12020	2" x 0.120							
	15/32	10d Common	3" x 0.148	2	320	425	640	730	285	215
		Hytek 13520 [4]	2" x 0.135							
		10d Common	3" x 0.148	3	360	480	720	820	320	240
		Hytek 13520 [4]	2" x 0.135							

For SI: 1 inch = 25.4 mm, 1 pound per foot = 14.5939 N/m

1 For framing of other species: (1) Find specific gravity of lumber in AF&PA NDS. (2) For nails find shear value from table above for nail size for actual grade and multiply value by the following adjustment factor: Specific Gravity Adjustment Factor = [1-(0.5-SG)], where SG = Specific Gravity of the framing lumber. This adjustment factor shall not be greater than 1.

2 Space fasteners maximum 12 inches o.c. along intermediate framing members (6 inches o.c. where supports are spaced 48 inches o.c.).

3 Framing at adjoining panel edges shall be 3 inches nominal wider, and shall be staggered where nails are spaced 2 inches or 2 1/2 inches on center.

4 Framing at adjoining panel edges shall be 3 inches nominal wider, and nails shall be staggered where both of the following conditions are meet: (1) 0.135-inch screw shank nails having penetration into framing more than1 1/2 inches and (2) nails are spaced 3 inches on center or less.

5 The minimum nominal width of the framing members not located at boundaries or adjoining panel edges must be 2 inches.

6 For shear loads of normal of permanent load duration as defined by the AF&PA NDS, the value in the table above must be multiplied by 0.63 or 0.56, respectively

ALLOWABLE SHEAR (POUNDS PER FOOT) FOR WOOD STRUCTURAL **PANEL DIAPHRAGMS** WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE[1] FOR WIND OR SEISMIC LOADING BASED ON THE 2006 IBC[6]

PANEL GRADE	MINUMUM NOMINAL PANEL THICKNESS (inch)	NAIL TYPE	NAIL DESCRIPTION	NOMINAL WIDTH OF FRAMING MEMBERS AT ADJOINING PANEL EDGES AND BOUNDARIES (inches)[5]	BLOCKED DIAPHRAGMS				UNBLOCKED DIAPHRAGMS	
					FASTENERS SPACING (INCHES) AT DIAPHRAGM BOUNDARIES (ALL CASES) AT CONTINUOUS PANEL EDGES PARALLEL TO LOAD (CASES 3 & 4) AND AT ALL PANEL EDGES (CASES 5 & 6)[2]				FASTENERS SPACED 6 INCHES MAXIMUM AT SUPPORTED EDGES[2]	
					6	4	2 1/2 [3]	2 [3]	CASE 1	CASES 2, 3, 4, 5 & 6
					FASTENER SPACING (INCHES) AT OTHER PANEL EDGES (CASES 1, 2, 3 & 4)					
					6	6	4	3		
OTHER GRADES	3/8	8d Common	2 1/2" x 0.131	2	240	320	480	545	215	160
		Hytek 12020	2" x 0.120							
		8d Common	2 1/2" x 0.131	3	270	360	540	610	240	180
		Hytek 12020	2" x 0.120							
	7/16	8d Common	2 1/2" x 0.131	2	255	340	505	575	230	170
		Hytek 12020	2" x 0.120							
		8d Common	2 1/2" x 0.131	3	285	380	570	645	255	190
		Hytek 12020	2" x 0.120							
	15/32	8d Common	2 1/2" x 0.131	2	270	360	530	600	240	180
		Hytek 12020	2" x 0.120							
		8d Common	2 1/2" x 0.131	3	300	400	600	675	265	200
		Hytek 12020	2" x 0.120							
	15/32	10d Common	3" x 0.148	2	290	385	575	655	255	190
		Hytek 13520 [4]	2" x 0.135							
		10d Common	3" x 0.148	3	325	430	650	735	290	215
		Hytek 13520 [4]	2" x 0.135							
	19/32	10d Common	3" x 0.148	2	320	425	640	730	285	215
		Hytek 13521 [4]	2 1/8" x 0.135							
		10d Common	3" x 0.148	3	360	480	720	820	320	240
		Hytek 13521 [4]	2 1/8" x 0.135							

For SI: 1 inch = 25.4 mm, 1 pound per foot = 14.5939 N/m

[1] For framing of other species: (1) Find specific gravity of lumber in AF&PA NDS. (2) For nails find shear value from table above for nail size for actual grade and multiply value by the following adjustment factor: Specific Gravity Adjustment Factor = [1-(0.5-SG)], where SG = Specific Gravity of the framing lumber. This adjustment factor shall not be greater than 1.

[2] Space fasteners maximum 12 inches o.c. along intermediate framing members (6 inches o.c. where supports are spaced 48 inches o.c.).

[3] Framing at adjoining panel edges shall be 3 inches nominal wider, and shall be staggered where nails are spaced 2 inches or 2 1/2 inches on center.

[4] Framing at adjoining panel edges shall be 3 inches nominal wider, and nails shall be staggered where both of the following conditions are meet: (1) 0.135-inch screw shank nails having penetration into framing more than1 1/2 inches and (2) nails are spaced 3 inches on center or less.

[5] The minimum nominal width of the framing members not located at boundaries or adjoining panel edges must be 2 inches.

[6] For shear loads of normal of permanent load duration as defined by the AF&PA NDS, the value in the table above must be multiplied by 0.63 or 0.56, respectively

ALLOWABLE SHEAR (POUNDS PER FOOT) FOR WOOD STRUCTURAL PANEL **SHEAR WALLS** WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE[1] FOR WIND OR SEISMIC LOADING BASED ON 2006 ICB[2,7,8,9]

PANEL GRADE	MINIMUM NOMINAL PANEL THICKNESS (inch)	PANEL APPLIED DIRECTLY TO FRAMING					PANELS APPLIED OVER 1/2-INCH OR 5/8-INCH GYPSUM SHEATHING				
		NAIL TYPE	NAIL SPACING AT PANEL EDGE (inches)				NAIL TYPE	NAIL SPACING AT PANEL EDGE (inches)			
			6	4	3	2[4]		6	4	3	2[4]
STRUCTURAL 1	3/8	8d common ($2^1/_2$" x 0.131) **Hytek 12020** (2" x 0.120)	230[3]	360[3]	460[3]	610[3]	10d common (3" x 0.148) **Hytek 13524** ($2^1/_2$" x 0.135)	280	430	550[5]	730
	7/16	8d common ($2^1/_2$" x 0.131) **Hytek 12020** (2" x 0.120)	255[3]	395[3]	505[3]	670[3]	10d common (3" x 0.148) **Hytek 13525** ($2^5/_8$" x 0.135)				
	15/32	8d common ($2^1/_2$" x 0.131) **Hytek 12020** (2" x 0.120)	280	430	550	730	10d common (3" x 0.148) **Hytek 13525** ($2^5/_8$" x 0.135)				
	15/32	10d common (3" x 0.148) **Hytek 13520** (2" x 0.135)	340	510	665[5]	870	10d common (3" x 0.148) **Hytek 13525** ($2^5/_8$" x 0.135)	-	-	-	-

For SI: 1 inch =25.4 mm, 1 pound per foot = 14.5939 N/m

[1] For framing of other species: (1) Find specific gravity for species of lumber in AF&PA NDS. (2) For nails find shear value from table above for nail size for actual grade and multiply value by the following adjustment factor: Specific Gravity Adjustment Factor = [1-(0.5 – SG)], where SG = Specific Gravity of the framing lumber. This adjustment factor shall not be greater than 1.

[2] Panel edges backed with 2-inch nominal or wider framing. Install panel either horizontally or vertically. Space fasteners maximum 6 inches on center along intermediate framing members for $^3/_8$ inch and $^7/_{16}$ inch panels installed on studs spaced 24 inches on center. For other conditions and panel thickness, space fasteners maximum 12 inches on center on intermediate supports.

[3] Allowable shear values are permitted to be increase to values shown for $^{15}/_{32}$ inch sheathing with same nailing provided (a) studs are spaced a maximum of 16 inches on center, or (b) panels are applied with long dimension across studs.

[4] Framing at adjoining panel edges must be 3 inches nominal or wider, and nails must be staggered where nails are spaced 2 inches on center.

[5] Framing at adjoining panel edges must be 3 inches nominal or wider, and nails must be staggered where both of the following conditions are met: (1) 0.135 screw shank nails having penetration into framing of more than $1^1/_2$ inches and (2) nails are spaced 3 inches on center.

[6] Values apply to all-veneer plywood. Thickness at point of fastening on panel edges governs shear values.

[7] Where panels applied on both faces of a wall and nail spacing is less than 6 inches on center on either side, panel joints must be offset to fall on different framing members, or framing must be 3 inches nominal or thicker at adjoining panel edges and nails on each side shall be staggered.

[8] In Seismic Design Category D, E or F, where shear design values exceed 350 pounds per linear foot, all framing members receiving edge nailing from abutting panels must not be less than a single 3 inches nominal member, or two 2 inches nominal members fastened together in accordance with IBC Section 2306.1 to transfer the design shear value between framing members. Wood structural panel joint and sill plate nailing shall be staggered in all cases. See IBC Section 2305.3.11 for sill plate size and anchorage requirement.

[9] For shear loads of normal or permanent load duration as defined by the AF&PA NDS, the values in the table above must be multiplied by 0.63 or 0.56, respectively.

ALLOWABLE SHEAR (POUNDS PER FOOT) FOR WOOD STRUCTURAL PANEL
SHEAR WALLS WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE[1]
FOR WIND OR SEISMIC LOADING BASED ON 2006 ICB[2,7,8,9]

ANEL GRADE	MINIMUM NOMINAL PANEL THICKNESS (inch)	PANEL APPLIED DIRECTLY TO FRAMING					PANELS APPLIED OVER 1/2-INCH OR 5/8-INCH GYPSUM SHEATHING				
		NAIL TYPE	NAIL SPACING AT PANEL EDGE (inches)				NAIL TYPE	NAIL SPACING AT PANEL EDGE (inches)			
			6	4	3	2[4]		6	4	3	2[4]
OTHER GRADES[6]	3/8	8d common ($2^1/_2$" x 0.131) **Hytek 12020** (2" x 0.120)	220[3]	320[3]	410[3]	530[3]	10d common (3" x 0.148) **Hytek 13524** ($2^1/_2$" x 0.135)	260	380	490[5]	640
	7/16	8d common ($2^1/_2$" x 0.131) **Hytek 12020** (2" x 0.120)	240[3]	350[3]	450[3]	585[3]	10d common (3" x 0.148) **Hytek 13525** ($2^5/_8$" x 0.135)				
	15/32	8d common ($2^1/_2$" x 0.131) **Hytek 12020** (2" x 0.120)	260	380	490	640	10d common (3" x 0.148) **Hytek 13525** ($2^5/_8$" x 0.135)				
	15/32	10d common (3" x 0.148) **Hytek 13520** (2" x 0.135)	310	460	600[5]	770	10d common (3" x 0.148) **Hytek 13525** ($2^5/_8$" x 0.135)	-	-	-	-
	19/32	10d common (3" x 0.148) **Hytek 13521** ($2^1/_8$" x 0.135)	340	510	665[5]	870	10d common (3" x 0.148) **Hytek 13526** ($2^3/_4$" x 0.135)	-	-	-	-

For SI: 1 inch =25.4 mm, 1 pound per foot = 14.5939 N/m

1 For framing of other species: (1) Find specific gravity for species of lumber in AF&PA NDS. (2) For nails find shear value from table above for nail size for actual grade and multiply value by the following adjustment factor: Specific Gravity Adjustment Factor = [1-(0.5 – SG)], where SG = Specific Gravity of the framing lumber. This adjustment factor shall not be greater than 1.

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3 Allowable shear values are permitted to be increase to values shown for $^{15}/_{32}$ inch sheathing with same nailing provided (a) studs are spaced a maximum of 16 inches on center, or (b) panels are applied with long dimension across studs.

4 Framing at adjoining panel edges must be 3 inches nominal or wider, and nails must be staggered where nails are spaced 2 inches on center.

5 Framing at adjoining panel edges must be 3 inches nominal or wider, and nails must be staggered where both of the following conditions are met: (1) 0.135 screw shank nails having penetration into framing of more than $1^1/_2$ inches and (2) nails are spaced 3 inches on center.

6 Values apply to all-veneer plywood. Thickness at point of fastening on panel edges governs shear values.

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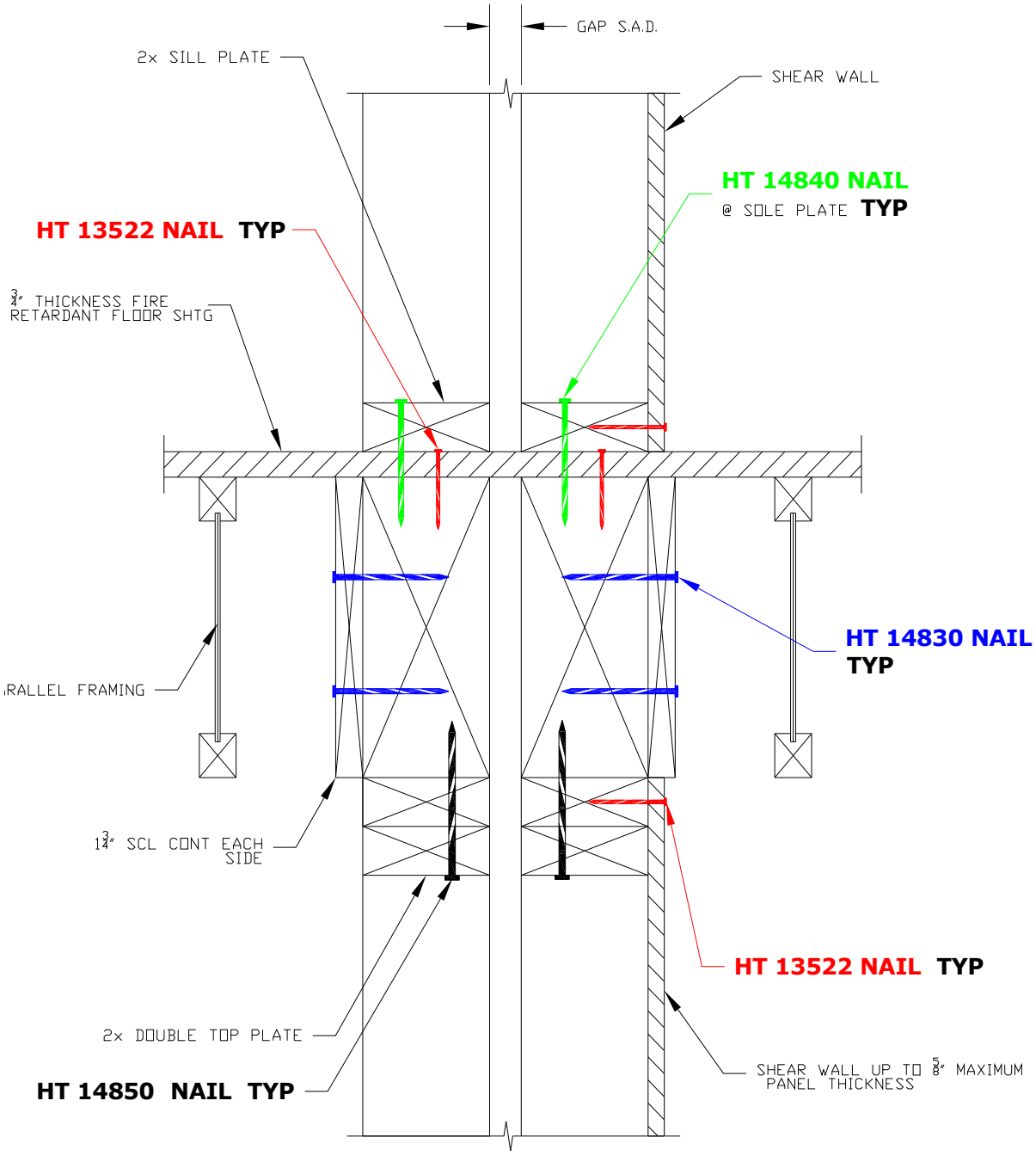

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