Florida · 3000psi

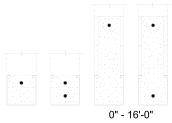
POWER BOX
POWERS
STEEL, INC.
LINTELS

Box Lintel Engineering

PSBox 8 • 20ga./16ga.

October 2012

By: sws
Date: 03/2012
chk: qk



PowerBOX8 Lintels

8" inch block width

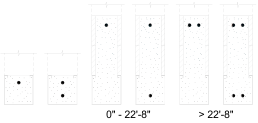
LINTEL LOAD TABLE (IN POUNDS PER LINEAL FOOT) (20ga. < 16'-0" span)

Gravity Load Table 3000 psi grout (16ga. >= 16'-0" span)

--- ALL LOADS ARE SUPERIMPOSED ---

SPAN (ft)	PSbox8-8" #5 top	PSbox8-8" #5 top&bot	PSbox8-12" #5 top	PSbox8-12" #5 top&bot	PSbox8-14" #5 top	PSbox8-14" #5 top&bot	PSbox8-16" #5 top	PSbox8-16" #5 top&bot	PSbox8-20" #5 top	PSbox8-20" #5 top&bot	PSbox8-24" #5 top	PSbox8-24" #5 top&bot	PSbox8-32" #5 top	PSbox8-32" #5 top&bot	PSbox8-40" #5 top	PSbox8-40" #5 top&bot	SPAN (ft)
1'-6"	5568	5568	7369	7369	8269	8269	9170	9170	10971	10971	12772	12772					1'-6"
2'-2"	3836	3836	5074	5074	5694	5694	6313	6313	7551	7551	8789	8789					2'-2"
2'-8"	3106	3106	4107	4107	4607	4607	5107	5107	6108	6108	7109	7109					2'-8"
3'-2"	2606	2606	3444	3444	3864	3864	4283	4283	5121	5121	5960	5960	7636	7636	9313	9313	3'-2"
4'-0"	2051	2051	2709	2709	3038	3038	3366	3366	4024	4024	4682	4682	5998	5998	7314	7314	4'-0"
4'-6"	1816	1816	2398	2398	2689	2689	2980	2980	3561	3561	4143	4143	5306	5306	6470	6470	4'-6"
5'-2"	1574	1574	2077	2077	2329	2329	2580	2580	3083	3083	3586	3586	4592	4592	5598	5598	5'-2"
6'-2"	1291	1309	1726	1726	1935	1935	2143	2143	2560	2560	2977	2977	3811	3811	4644	4644	6'-2"
7'-0"	989	1146	1510	1510	1692	1692	1874	1874	2238	2238	2602	2602	3330	3330	4058	4058	7'-0"
8'-0"	743	996	1311	1311	1468	1468	1625	1625	1940	1940	2255	2255	2885	2885	3515	3515	8'-0"
9'-2"	552	760	1133	1133	1268	1268	1404	1404	1675	1675	1946	1946	2489	2489	3032	3032	9'-2"
10'-0"	454	629	977	1031	1154	1154	1277	1277	1524	1524	1770	1770	2263	2263	2755	2755	10'-0"
11'-2"	352	492	766	887	1023	1023	1132	1132	1349	1349	1567	1567	2003	2003	2438	2438	11'-2"
12'-0"	297	418	652	756	922	945	1045	1045	1246	1246	1446	1446	1848	1848	2249	2249	12'-0"
12'-8"	261	369	576	670	817	890	984	984	1173	1173	1361	1361	1738	1738	2116	2116	12'-8"
13'-4"	229	328	511	596	728	815	893	929	1107	1107	1285	1285	1640	1640	1996	1996	13'-4"
14'-0"	203	292	456	532	651	729	799	879	1047	1047	1215	1215	1551	1551	1887	1887	14'-0"
16'-0"	215	284	386	530	492	653	688	775	1166	1236	1524	1524	1811	1811	2098	2098	16'-0"
18'-0"	157	211	286	400	367	494	519	588	891	946	1201	1336	1585	1585	1833	1833	18'-0"
18'-8"	142	192	260	365	334	452	474	539	818	869	1104	1282	1520	1520	1758	1758	18'-8"
20'-8"	104	145	195	281	254	350	365	518	641	682	869	1037	1267	1350	1560	1560	20'-8"
22'-8"	76	110	147	219	193	273	284	327	508	543	693	832	1014	1211	1335	1652	22'-8"
24'-0"							334	384	484	625	625	918	905	1131	1185	1304	24'-0"
26'-0"							267	309	391	511	507	757	737	1026	968	1181	26'-0"

By: sws
Date: 03/2012
chk: qk



PowerBOX8 Lintels

8" inch block width

LINTEL LOAD TABLE (IN POUNDS PER LINEAL FOOT) (20ga. < 16'-0" span)

Gravity Load Table 3000 psi grout (16ga. >= 16'-0" span)

--- ALL LOADS ARE SUPERIMPOSED ---

SPAN (ft)	PSbox8-8" #5 top	PSbox8-8" #5 top&bot	PSbox8-12" #5 top	PSbox8-12" #5 top&bot	PSbox8-14" #5 top	PSbox8-14" #5 top&bot	PSbox8-16" #5 top	PSbox8-16" #5 top&bot	PSbox8-20" #5 top	PSbox8-20" #5 top&bot	PSbox8-24" #5 top	PSbox8-24" #5 top&bot	PSbox8-32" #5 top	PSbox8-32" #5 top&bot	PSbox8-40" #5 top	PSbox8-40" #5 top&bot	SPAN (ft)
28'-0"							214	251	317	420	413	629	604	929	795	1077	28'-0"
30'-0"							171	203	258	348	337	525	497	780	656	986	30'-0"
32'-0"													409	857	542	866	32'-0"
34'-0"													336	556	447	734	34'-0"
36'-0"													275	471	368	624	36'-0"
38'-0"															301	531	38'-0"
40'-0"															244	451	40'-0"

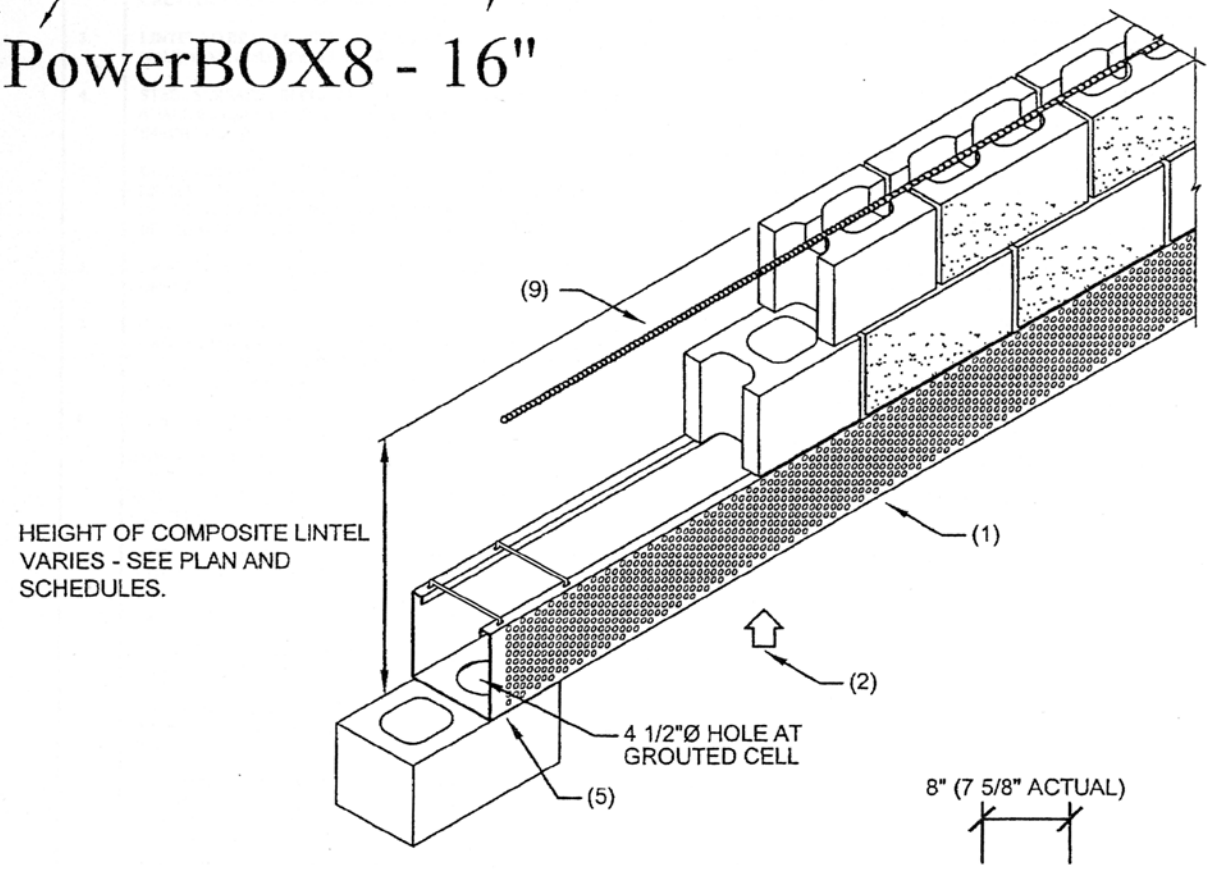
Note: All lintels greater than 22'-8" in length will require (2)-#5 bars top or (2)-#5 bars top&bott.

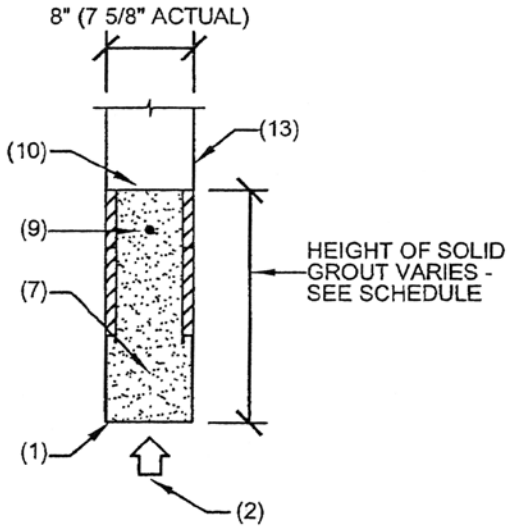
Powers Steel Product Lintel

LINTEL DESCRIPTION

INDICATES HEIGHT OF GROUT

PowerBOX8 - 16"





S.E. CONSULTANTS, INC.

5800 E. THOMAS ROAD, SUITE 104
SCOTTSDALE, ARIZONA 85251
(480) 946-2010 FAX: (480) 946-1909

NOTES: PowerBox8 Gravity – 16 and 20 Gage

1. PRODUCT NAME (PATENT NO. 6367209);

   PREFORMED POWERS STEEL LINTEL SHALL BE GALVANIZED COIL STEEL AS MANUFACTURED BY POWERS STEEL AND WIRE PRODUCTS, INC. STEEL GRADE SHALL BE ASTM A570 GRADE C (FY= 40 ksi).

   NOTE: DEFORMATIONS DO NOT EFFECT STRUCTURAL CAPACITY. FOR SPANS LESS THAN 16'-0" BOX LINTELS TO BE 20 GA. FOR SPANS GREATER THAN OR EQUAL TO 16'-0" BOX LINTELS TO BE 16 GA.

2. SHORE LINTELS AS REQUIRED TO COMPENSATE FOR DEAD LOAD DEFLECTION ON NON-CURED MASONRY GROUT. ALL LINTELS GREATER THAN 18'-0" ARE BUILT WITH 1/2" CAMBER.

3. LINTEL TO BE USED WITH BRICK OR CONCRETE MASONRY UNITS HAVING MINIMUM f'm AS SHOWN.

4. STEEL SURFACES IN CONTACT WITH GROUT AND/OR MORTAR SHALL BE UNPAINTED AND FREE OF MATERIAL THAT MIGHT INHIBIT BOND.

5. DESIGN BEARING OF POWERS STEEL LINTELS IS 8" FOR ALL LINTELS GREATER THAN 18'-0" IN SPAN OR GREATER THAN 32" IN DEPTH. ALL OTHER LINTELS REQUIRE A MINIMUM OF 4" BEARING PER THE STANDARD AND FLORIDA BUILDING CODES.

6. f'm = 1500 psi. MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N.

7. GROUT = 3,000 psi. SLUMP RANGE: 8" TO 11". ROD OR VIBRATE GROUT ADEQUATELY TO ENSURE CONSOLIDATION OF GROUT (NO AIR POCKETS). GROUT SHALL COMPLY WITH ASTM C476-83 AND BE EITHER COARSE OR FINE GROUT.

8. MORTAR: TYPE "S" OR TYPE "M" 1800 psi.

9. TOP REINFORCING OR TOP OF WALL REINFORCING, IS REQUIRED BY CODES TO PROVIDE A CONTINUOUS TIE AROUND A STRUCTURE AND TO PROVIDE FOR UPLIFT RESISTANCE AT LINTELS.

10. ATTACHMENTS TO TOP OF WALL PER ARCHITECTURAL AND/OR ENGINEERING DRAWINGS.

11. LIMITATIONS:

    THE LINTELS SHALL NOT EXCEED THE ALLOWABLE DESIGN LOADS AND SPANS SHOWN IN THIS REPORT.

    THE LINTELS SHALL NOT BE USED IN A FIRE RESISTANCE RATED ASSEMBLY UNLESS A TEST REPORT DOCUMENTING FIRE RESISTANCE IS SUBMITTED TO THE BUILDING OFFICIAL.

    A PROPER BARRIER IS REQUIRED WHEN USING CORROSIVE LUMBER PRODUCTS IN CONTACT WITH THE STEEL LINTELS. A PROPER BARRIER WOULD BE A POLYETHYLENE BARRIER WITH A 10 MIL THICKNESS OR TO MAINTAIN A MIN. 1/4" SPACING BETWEEN THE CORROSIVE LUMBER AND STEEL LINTEL.

    NOT FOR USE IN THE HVHZ IN MIAMI OR BROWARD COUNTIES AT THIS TIME. MIAMI DADE COMPLIANCE IS BEING SOUGHT.

12. DEFLECTION LIMITS ARE SET TO L/600 FOR ALL LOADS SHOWN ABOVE THE DARKENED SOLID LINE. DEFLECTION LIMITS ARE SET TO L/360 [LIVE LOAD] AND L/240 [DEAD + LIVE LOAD] FOR ALL LOADS SHOWN BELOW DARKENED SOLID LINE.

13. ALL LOADS SHOWN IN TABLES ARE SUPERIMPOSED LOADS. TABLES ARE DATED 3/2012 AND CLEARLY INDICATE SUPERIMPOSED LOADS.

14. #5 REINFORCING BAR (GRADE 40) IS TO SET APPROX. 1-1/2" FROM TOP OF ALL LINTEL DESIGNS AND IN SOME CASES THE BOTTOM OF LINTEL AS SHOWN ON LOAD TABLES. TOP HORIZONTAL REINFORCEMENT IS TO BE A CONTINUOUS TIE AS NOTED IN NOTE #9. IN THE CASE THAT THE LINTEL IS NOT WITHIN A COMPOSITE BOND BEAM SYSTEM, TOP HORIZONTAL REINFORCEMENT IS TO EXTEND 2'-0" PAST INSIDE OF JAMBS.

15. MANUFACTURER:

    POWERS STEEL
    4118 E. ELWOOD PHOENIX, AZ 85040
    PHONE (602) 437-1160
    FAX (602) 437-5409

16. TECHNICAL DATA AND ENGINEERING POWERS LINTELS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING:

    + FLORIDA BUILDING CODE - 2010
    + NASPEC / AISI LIGHT GAGE COLD FORMED STEEL DESIGN - 2007
    + ACI 530-08/ASCE 5-08/TMS 402-08

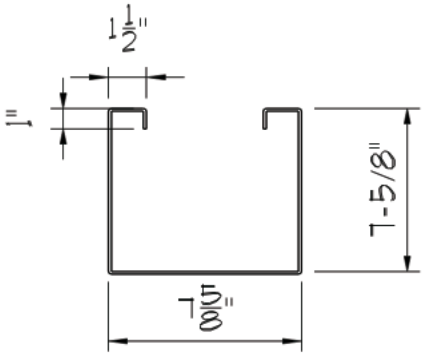
    TECHNICAL ASSISTANCE IS AVAILABLE FROM THE MANUFACTURER ON SPECIAL DESIGN CONCERNS OR LINTEL DEPTHS DIFFERENT THAN THOSE SHOWN IN THE LOAD TABLES.

    STRUCTURAL ENGINEER FOR THESE LINTELS IS:

    S.E. CONSULTANTS, INC.
    5800 E. THOMAS RD. SUITE 104
    SCOTTSDALE, AZ 85251
    PHONE (480) 946-2010
    FAX (480) 946-1909

    IF AN INSPECTOR, CONTRACTOR, SUBCONTRACTOR, OR PLANS EXAMINER HAS ANY TECHNICAL QUESTIONS PLEASE CALL.

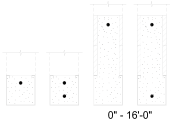
17. INSTALLATION:
    POWERS LINTELS ARE TO BE INSTALLED IN ACCORDANCE WITH STANDARD CONSTRUCTIONS PRACTICES, SET TO PROPER LINE AND LEVEL, PLUMB AND TRUE, AND IN CORRECT RELATION TO OTHER WORK.



PowerBox8 STEEL LINTELS
NOTE: NO SCALE
16 GAGE IS .060 INCHES THICK.
20 GAGE IS .039 INCHES THICK.

POWERS STEEL STEEL & WIRE

By: sws
Date: 03/2012
chk: qk



PowerBOX8 Lintels

8" inch block width

LINTEL LOAD TABLE (IN POUNDS PER LINEAL FOOT) (20ga. < 16'-0" span)

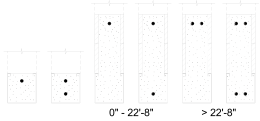
Lateral Load Table 3000 psi grout (16ga. >= 16'-0" span)

--- ALL LOADS ARE SUPERIMPOSED ---

SPAN (ft)	PSbox8-8" #5 top	PSbox8-8" #5 top&bot	PSbox8-12" #5 top	PSbox8-12" #5 top&bot	PSbox8-14" #5 top	PSbox8-14" #5 top&bot	PSbox8-16" #5 top	PSbox8-16" #5 top&bot	PSbox8-20" #5 top	PSbox8-20" #5 top&bot	PSbox8-24" #5 top	PSbox8-24" #5 top&bot	PSbox8-32" #5 top	PSbox8-32" #5 top&bot	PSbox8-40" #5 top	PSbox8-40" #5 top&bot	SPAN (ft)
1'-6"	3256	3256	4097	4097	4526	4526	4960	4960	5839	5839	6732	6732	8546	8546	10390	10390	1'-6"
2'-2"	2254	2254	2836	2836	3133	3133	3434	3434	4043	4043	4661	4661	5917	5917	7193	7193	2'-2"
2'-8"	1832	1832	2304	2304	2546	2546	2790	2790	3285	3285	3787	3787	4807	4807	5844	5844	2'-8"
3'-2"	1543	1543	1941	1941	2144	2144	2349	2349	2766	2766	3189	3189	4048	4048	4922	4922	3'-2"
4'-0"	1221	1221	1536	1536	1697	1697	1860	1860	2190	2190	2524	2524	3205	3205	3896	3896	4'-0"
4'-6"	1085	1085	1366	1366	1509	1509	1653	1653	1946	1946	2244	2244	2849	2849	3463	3463	4'-6"
5'-2"	945	945	1189	1189	1314	1314	1440	1440	1695	1695	1954	1954	2481	2481	2951	3016	5'-2"
6'-2"	792	792	996	996	1101	1101	1206	1206	1420	1420	1637	1637	1865	1926	2071	2149	6'-2"
7'-0"	698	698	878	878	970	970	1063	1063	1176	1204	1272	1306	1448	1495	1608	1668	7'-0"
8'-0"	611	611	738	749	781	794	822	838	901	922	974	1000	1108	1145	1231	1277	8'-0"
9'-2"	492	496	562	570	595	605	626	638	686	702	742	762	844	872	937	973	9'-2"
10'-0"	413	417	472	479	500	508	526	536	576	590	623	640	709	733	788	817	10'-0"
11'-2"	331	334	379	384	401	408	422	430	462	473	500	513	569	588	632	655	11'-2"
12'-0"	287	289	328	333	347	353	366	373	400	410	433	444	493	509	547	658	12'-0"
12'-8"	257	260	294	299	312	317	328	334	359	368	388	399	442	457	491	509	12'-8"
13'-4"	232	234	266	270	281	286	296	302	324	332	351	360	399	412	443	460	13'-4"
14'-0"	211	213	241	244	255	259	269	274	294	301	318	326	362	374	402	417	14'-0"
16'-0"	271	272	296	298	308	310	319	322	341	344	361	366	399	405	434	442	16'-0"
18'-0"	214	215	234	235	243	245	252	254	269	272	285	289	315	320	343	349	18'-0"
18'-8"	199	200	218	219	226	228	235	236	250	253	265	269	293	298	319	325	18'-8"
20'-8"	162	163	177	178	185	186	191	193	204	206	216	219	239	243	260	265	20'-8"
22'-8"	135	135	148	148	153	154	159	160	170	172	180	182	199	202	216	220	22'-8"
24'-0"							143	145	153	155	163	166	180	185	196	202	24'-0"
26'-0"							122	123	130	132	138	141	154	157	167	172	26'-0"

Note: Above loads include 1/3 increase for wind.

By: sws
Date: 03/2012
chk: qk



PowerBOX8 Lintels

8" inch block width

LINTEL LOAD TABLE (IN POUNDS PER LINEAL FOOT) (20ga. < 16'-0" span)

Lateral Load Table 3000 psi grout (16ga. >= 16'-0" span)

--- ALL LOADS ARE SUPERIMPOSED ---

SPAN (ft)	PSbox8-8" #5 top	PSbox8-8" #5 top&bot	PSbox8-12" #5 top	PSbox8-12" #5 top&bot	PSbox8-14" #5 top	PSbox8-14" #5 top&bot	PSbox8-16" #5 top	PSbox8-16" #5 top&bot	PSbox8-20" #5 top	PSbox8-20" #5 top&bot	PSbox8-24" #5 top	PSbox8-24" #5 top&bot	PSbox8-32" #5 top	PSbox8-32" #5 top&bot	PSbox8-40" #5 top	PSbox8-40" #5 top&bot	SPAN (ft)
28'-0"							105	106	112	114	119	122	132	136	144	149	28'-0"
30'-0"							92	93	98	99	104	106	115	118	126	129	30'-0"
32'-0"													101	104	110	114	32'-0"
34'-0"													90	92	98	101	34'-0"
36'-0"													80	82	87	90	36'-0"
38'-0"															78	81	38'-0"
40'-0"															71	73	40'-0"

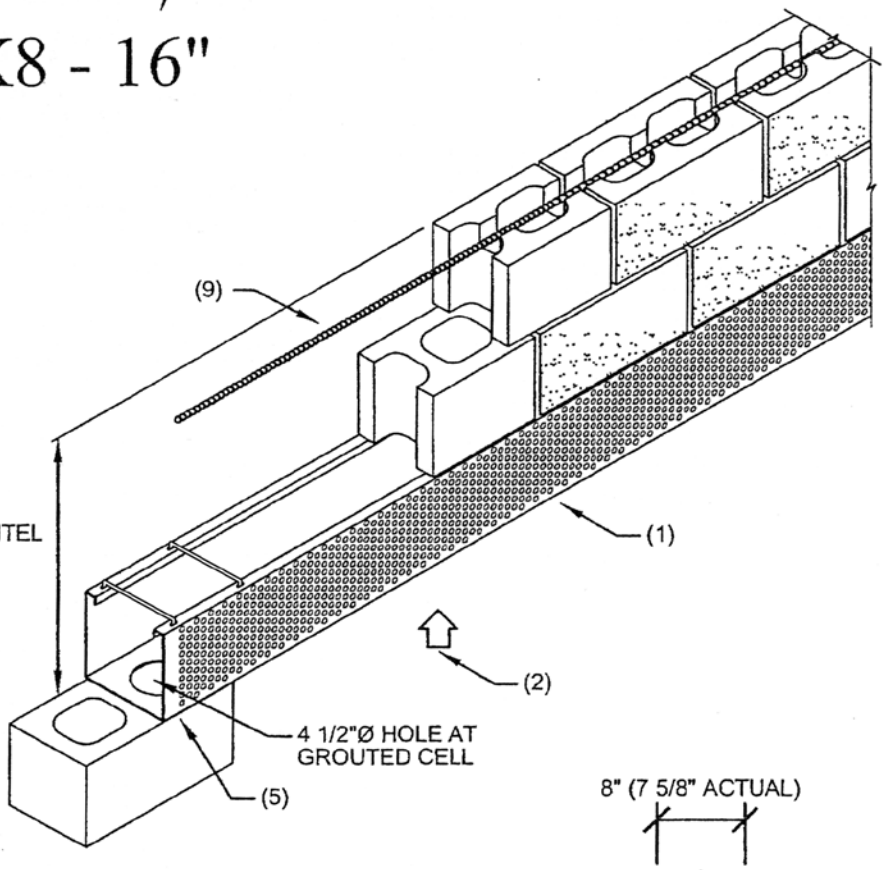
Note: All lintels greater than 22'-8" in length will require (2)-#5 bars top or (2)-#5 bars top&bott.
Above loads include 1/3 increase for wind.

Powers Steel Product Lintel

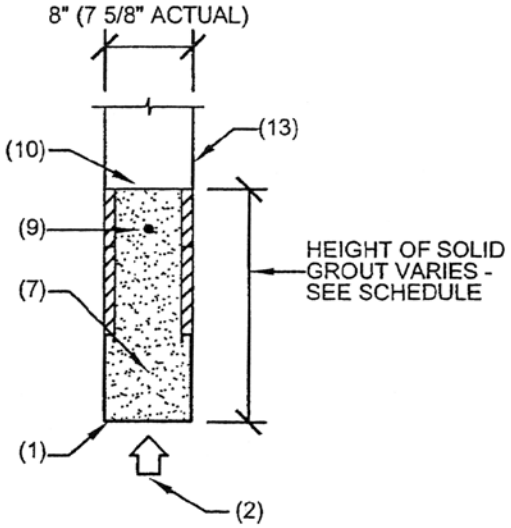
LINTEL DESCRIPTION

INDICATES HEIGHT OF GROUT

PowerBOX8 - 16"



HEIGHT OF COMPOSITE LINTEL VARIES - SEE PLAN AND SCHEDULES.



S.E. CONSULTANTS, INC.

POWERS STEEL & WIRE

5800 E. THOMAS ROAD, SUITE 104
SCOTTSDALE, ARIZONA 85251
(480) 946-2010 FAX: (480) 946-1909

NOTES: PowerBox8 Lateral/Uplift – 16 and 20 Gage

1. PRODUCT NAME (PATENT NO. 6367209);

   PREFORMED POWERS STEEL LINTEL SHALL BE GALVANIZED COIL STEEL AS MANUFACTURED BY POWERS STEEL AND WIRE PRODUCTS, INC. STEEL GRADE SHALL BE ASTM A570 GRADE C (FY= 40 ksi).

   NOTE: DEFORMATIONS DO NOT EFFECT STRUCTURAL CAPACITY. FOR SPANS LESS THAN 16'-0" BOX LINTELS TO BE 20 GA. FOR SPANS GREATER THAN OR EQUAL TO 16'-0" BOX LINTELS TO BE 16 GA.

2. SHORE LINTELS AS REQUIRED TO COMPENSATE FOR DEAD LOAD DEFLECTION ON NON-CURED MASONRY GROUT. ALL LINTELS GREATER THAN 18'-0" ARE BUILT WITH 1/2" CAMBER.

3. LINTEL TO BE USED WITH BRICK OR CONCRETE MASONRY UNITS HAVING MINIMUM f'm AS SHOWN.

4. STEEL SURFACES IN CONTACT WITH GROUT AND/OR MORTAR SHALL BE UNPAINTED AND FREE OF MATERIAL THAT MIGHT INHIBIT BOND.

5. DESIGN BEARING OF POWERS STEEL LINTELS IS 8" FOR ALL LINTELS GREATER THAN 18'-0" IN SPAN OR GREATER THAN 32" IN DEPTH. ALL OTHER LINTELS REQUIRE A MINIMUM OF 4" BEARING PER THE STANDARD AND FLORIDA BUILDING CODES.

6. f'm = 1500 psi. MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N.

7. GROUT = 3,000 psi. SLUMP RANGE: 8" TO 11". ROD OR VIBRATE GROUT ADEQUATELY TO ENSURE CONSOLIDATION OF GROUT (NO AIR POCKETS). GROUT SHALL COMPLY WITH ASTM C476-83 AND BE EITHER COARSE OR FINE GROUT.

8. MORTAR: TYPE "S" OR TYPE "M" 1800 psi.

9. TOP REINFORCING OR TOP OF WALL REINFORCING, IS REQUIRED BY CODES TO PROVIDE A CONTINUOUS TIE AROUND A STRUCTURE AND TO PROVIDE FOR UPLIFT RESISTANCE AT LINTELS.

10. ATTACHMENTS TO TOP OF WALL PER ARCHITECTURAL AND/OR ENGINEERING DRAWINGS.

11. LIMITATIONS:

    THE LINTELS SHALL NOT EXCEED THE ALLOWABLE DESIGN LOADS AND SPANS SHOWN IN THIS REPORT.

    THE LINTELS SHALL NOT BE USED IN A FIRE RESISTANCE RATED ASSEMBLY UNLESS A TEST REPORT DOCUMENTING FIRE RESISTANCE IS SUBMITTED TO THE BUILDING OFFICIAL.

    A PROPER BARRIER IS REQUIRED WHEN USING CORROSIVE LUMBER PRODUCTS IN CONTACT WITH THE STEEL LINTELS. A PROPER BARRIER WOULD BE A POLYETHYLENE BARRIER WITH A 10 MIL THICKNESS OR TO MAINTAIN A MIN. 1/4" SPACING BETWEEN THE CORROSIVE LUMBER AND STEEL LINTEL.

    NOT FOR USE IN THE HVHZ IN MIAMI OR BROWARD COUNTIES AT THIS TIME. MIAMI DADE COMPLIANCE IS BEING SOUGHT.

12. ALLOWABLE LOADS SHOWN IN THE TABLES FOR UPLIFT AND LATERAL LOAD CAPACITY INCLUDE A 1/3 INCREASE FOR WIND OR SEISMIC LOADING WITH NO FURTHER INCREASES ALLOWED. IF COMBINED LOADING CONDITIONS ARE APPLIED TO THE LINTELS FOR SIMULTANEOUS LOADING DIRECTIONS, THE ALLOWABLE LOADS SHOWN IN THE TABLES MUST BE ADJUSTED USING A UNITY EQUATION.

13. ALL LOADS SHOWN IN TABLES ARE SUPERIMPOSED LOADS. TABLES ARE DATED 3/2012 AND CLEARLY INDICATE SUPERIMPOSED LOADS.

14. #5 REINFORCING BAR (GRADE 40) IS TO SET APPROX. 1-1/2" FROM TOP OF ALL LINTEL DESIGNS AND IN SOME CASES THE BOTTOM OF LINTEL AS SHOWN ON LOAD TABLES. TOP HORIZONTAL REINFORCEMENT IS TO BE A CONTINUOUS TIE AS NOTED IN NOTE #9. IN THE CASE THAT THE LINTEL IS NOT WITHIN A COMPOSITE BOND BEAM SYSTEM, TOP HORIZONTAL REINFORCEMENT IS TO EXTEND 2'-0" PAST INSIDE OF JAMBS.

15. MANUFACTURER:

    POWERS STEEL
    4118 E. ELWOOD PHOENIX, AZ 85040
    PHONE (602) 437-1160
    FAX (602) 437-5409

16. TECHNICAL DATA AND ENGINEERING POWERS LINTELS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING:

    + FLORIDA BUILDING CODE - 2010
    + NASPEC / AISI LIGHT GAGE COLD FORMED STEEL DESIGN - 2007
    + ACI 530-08/ASCE 5-08/TMS 402-08

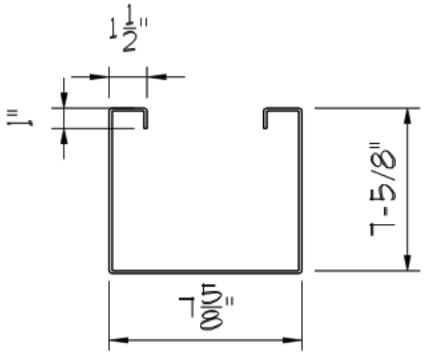
    TECHNICAL ASSISTANCE IS AVAILABLE FROM THE MANUFACTURER ON SPECIAL DESIGN CONCERNS OR LINTEL DEPTHS DIFFERENT THAN THOSE SHOWN IN THE LOAD TABLES.

    STRUCTURAL ENGINEER FOR THESE LINTELS IS:

    S.E. CONSULTANTS, INC.
    5800 E. THOMAS RD. SUITE 104
    SCOTTSDALE, AZ 85251
    PHONE (480) 946-2010
    FAX (480) 946-1909

    IF AN INSPECTOR, CONTRACTOR, SUBCONTRACTOR, OR PLANS EXAMINER HAS ANY TECHNICAL QUESTIONS PLEASE CALL.

17. INSTALLATION:
    POWERS LINTELS ARE TO BE INSTALLED IN ACCORDANCE WITH STANDARD CONSTRUCTIONS PRACTICES, SET TO PROPER LINE AND LEVEL, PLUMB AND TRUE, AND IN CORRECT RELATION TO OTHER WORK.



PowerBox8 STEEL LINTELS
NOTE: NO SCALE
16 GAGE IS .060 INCHES THICK.
20 GAGE IS .039 INCHES THICK.

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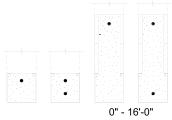
By: sws
Date: 03/2012
chk: qk



PowerBOX8 Lintels

8" inch block width

LINTEL LOAD TABLE (IN POUNDS PER LINEAL FOOT) (20ga. < 16'-0" span)

Uplift Load Table 3000 psi grout (16ga. >= 16'-0" span)

--- ALL LOADS ARE SUPERIMPOSED ---

SPAN (ft)	PSbox8-8" #5 top	PSbox8-8" #5 top&bot	PSbox8-12" #5 top	PSbox8-12" #5 top&bot	PSbox8-14" #5 top	PSbox8-14" #5 top&bot	PSbox8-16" #5 top	PSbox8-16" #5 top&bot	PSbox8-20" #5 top	PSbox8-20" #5 top&bot	PSbox8-24" #5 top	PSbox8-24" #5 top&bot	PSbox8-32" #5 top	PSbox8-32" #5 top&bot	PSbox8-40" #5 top	PSbox8-40" #5 top&bot	SPAN (ft)
1'-6"	5637	5637	7586	7585	8570	8570	9561	9561									1'-6"
2'-2"	3914	3914	5267	5267	5952	5952	6640	6640	8026	8026	9420	9420	12226	12226	15048	15048	2'-2"
2'-8"	3187	3187	4289	4289	4847	4847	5408	5408	6537	6537	7673	7673	9959	9959	12259	12259	2'-8"
3'-2"	2689	2689	3620	3620	4091	4091	4565	4565	5518	5518	6478	6478	8408	8408	10350	10350	3'-2"
4'-0"	2136	2136	2877	2877	3252	3252	3629	3629	4387	4387	5150	5150	6685	6685	8229	8229	4'-0"
4'-6"	1903	1903	2563	2563	2897	2897	3233	3233	3909	3909	4589	4589	5957	5957	7334	7334	4'-6"
5'-2"	1662	1662	2239	2239	2531	2531	2825	2825	3416	3416	4010	4010	5206	5206	6409	6409	5'-2"
6'-2"	1398	1398	1885	1885	2131	2131	2378	2378	2876	2876	3376	3376	4384	4384	5398	5398	6'-2"
7'-0"	1236	1236	1667	1667	1884	1884	2103	2103	2544	2544	2987	2987	3878	3878	4775	4775	7'-0"
8'-0"	959	959	1365	1365	1533	1533	1703	1703	2044	2044	2387	2387	3077	3077	3772	3772	8'-0"
9'-2"	739	739	1052	1052	1182	1182	1313	1313	1577	1577	1843	1843	2376	2376	2913	2913	9'-2"
10'-0"	626	626	892	892	1003	1003	1115	1115	1339	1339	1565	1565	2019	2019	2475	2475	10'-0"
11'-2"	509	509	726	726	817	817	908	908	1091	1091	1275	1275	1646	1646	2019	2019	11'-2"
12'-0"	446	446	636	636	715	715	795	795	956	956	1118	1118	1444	1444	1771	1771	12'-0"
12'-8"	404	404	576	576	648	648	721	721	867	867	1014	1014	1310	1310	1607	1607	12'-8"
13'-4"	368	368	525	525	591	591	657	657	791	791	925	925	1195	1195	1467	1467	13'-4"
14'-0"	337	337	481	481	542	542	603	603	725	725	849	849	1097	1097	1346	1346	14'-0"
16'-0"	347	347	461	461	509	509	558	558	656	656	754	754	952	952	1151	1151	16'-0"
18'-0"	282	282	376	376	416	416	456	456	537	537	618	618	781	781	945	945	18'-0"
18'-8"	265	265	353	353	391	391	429	429	505	505	582	582	736	736	891	891	18'-8"
20'-8"	223	223	298	298	330	330	363	363	428	428	494	494	626	626	758	758	20'-8"
22'-8"	191	191	257	257	285	285	313	313	371	371	428	428	543	543	659	659	22'-8"
24'-0"							381	381	489	489	577	577	754	754	932	932	24'-0"
26'-0"							335	335	430	430	507	507	663	663	819	819	26'-0"

Note: Above loads include 1/3 increase for wind.

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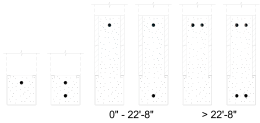
By: sws
Date: 03/2012
chk: qk



PowerBOX8 Lintels

8" inch block width

LINTEL LOAD TABLE (IN POUNDS PER LINEAL FOOT) (20ga. < 16'-0" span)

Uplift Load Table 3000 psi grout (16ga. >= 16'-0" span)

--- ALL LOADS ARE SUPERIMPOSED ---

SPAN (ft)	PSbox8-8" #5 top	PSbox8-8" #5 top&bot	PSbox8-12" #5 top	PSbox8-12" #5 top&bot	PSbox8-14" #5 top	PSbox8-14" #5 top&bot	PSbox8-16" #5 top	PSbox8-16" #5 top&bot	PSbox8-20" #5 top	PSbox8-20" #5 top&bot	PSbox8-24" #5 top	PSbox8-24" #5 top&bot	PSbox8-32" #5 top	PSbox8-32" #5 top&bot	PSbox8-40" #5 top	PSbox8-40" #5 top&bot	SPAN (ft)
28'-0"							298	298	383	383	452	452	590	590	730	730	28'-0"
30'-0"							269	269	345	345	407	407	532	532	658	658	30'-0"
32'-0"													484	484	599	599	32'-0"
34'-0"													445	445	550	550	34'-0"
36'-0"													411	411	509	509	36'-0"
38'-0"															475	475	38'-0"
40'-0"															445	445	40'-0"

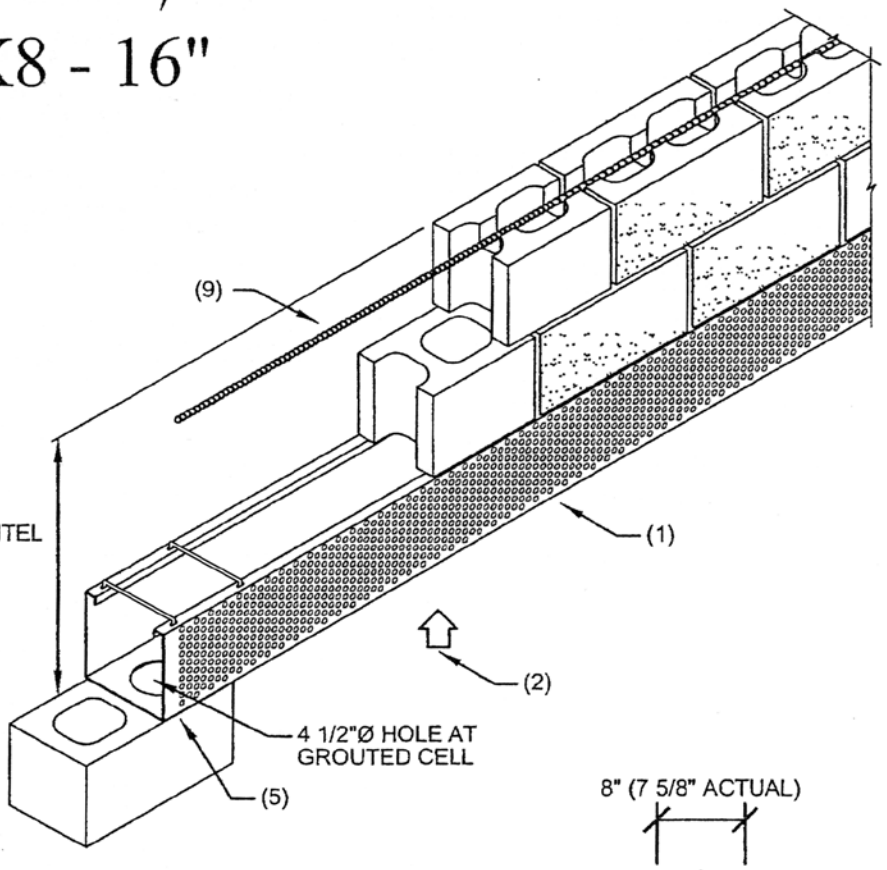
Note: All lintels greater than 22'-8" in length will require (2)-#5 bars top or (2)-#5 bars top&bott.
Above loads include 1/3 increase for wind.

Powers Steel Product Lintel

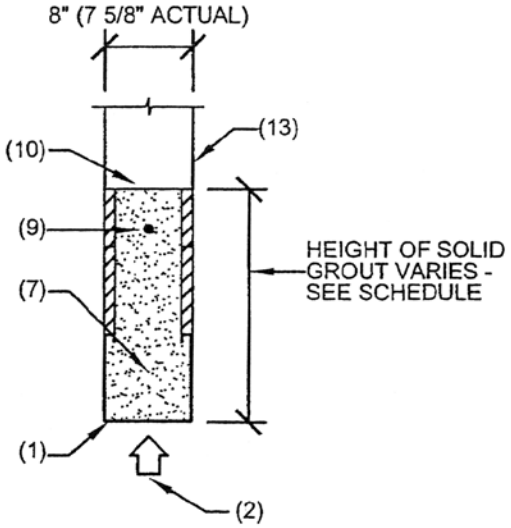
LINTEL DESCRIPTION

INDICATES HEIGHT OF GROUT

PowerBOX8 - 16"



HEIGHT OF COMPOSITE LINTEL VARIES - SEE PLAN AND SCHEDULES.



S.E. CONSULTANTS, INC.

POWERS STEEL & WIRE

5800 E. THOMAS ROAD, SUITE 104
SCOTTSDALE, ARIZONA 85251
(480) 946-2010 FAX: (480) 946-1909

NOTES: PowerBox8 Lateral/Uplift – 16 and 20 Gage

1. PRODUCT NAME (PATENT NO. 6367209);

   PREFORMED POWERS STEEL LINTEL SHALL BE GALVANIZED COIL STEEL AS MANUFACTURED BY POWERS STEEL AND WIRE PRODUCTS, INC. STEEL GRADE SHALL BE ASTM A570 GRADE C (FY= 40 ksi).

   NOTE: DEFORMATIONS DO NOT EFFECT STRUCTURAL CAPACITY. FOR SPANS LESS THAN 16'-0" BOX LINTELS TO BE 20 GA. FOR SPANS GREATER THAN OR EQUAL TO 16'-0" BOX LINTELS TO BE 16 GA.

2. SHORE LINTELS AS REQUIRED TO COMPENSATE FOR DEAD LOAD DEFLECTION ON NON-CURED MASONRY GROUT. ALL LINTELS GREATER THAN 18'-0" ARE BUILT WITH 1/2" CAMBER.

3. LINTEL TO BE USED WITH BRICK OR CONCRETE MASONRY UNITS HAVING MINIMUM f'm AS SHOWN.

4. STEEL SURFACES IN CONTACT WITH GROUT AND/OR MORTAR SHALL BE UNPAINTED AND FREE OF MATERIAL THAT MIGHT INHIBIT BOND.

5. DESIGN BEARING OF POWERS STEEL LINTELS IS 8" FOR ALL LINTELS GREATER THAN 18'-0" IN SPAN OR GREATER THAN 32" IN DEPTH. ALL OTHER LINTELS REQUIRE A MINIMUM OF 4" BEARING PER THE STANDARD AND FLORIDA BUILDING CODES.

6. f'm = 1500 psi. MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N.

7. GROUT = 3,000 psi. SLUMP RANGE: 8" TO 11". ROD OR VIBRATE GROUT ADEQUATELY TO ENSURE CONSOLIDATION OF GROUT (NO AIR POCKETS). GROUT SHALL COMPLY WITH ASTM C476-83 AND BE EITHER COARSE OR FINE GROUT.

8. MORTAR: TYPE "S" OR TYPE "M" 1800 psi.

9. TOP REINFORCING OR TOP OF WALL REINFORCING, IS REQUIRED BY CODES TO PROVIDE A CONTINUOUS TIE AROUND A STRUCTURE AND TO PROVIDE FOR UPLIFT RESISTANCE AT LINTELS.

10. ATTACHMENTS TO TOP OF WALL PER ARCHITECTURAL AND/OR ENGINEERING DRAWINGS.

11. LIMITATIONS:

    THE LINTELS SHALL NOT EXCEED THE ALLOWABLE DESIGN LOADS AND SPANS SHOWN IN THIS REPORT.

    THE LINTELS SHALL NOT BE USED IN A FIRE RESISTANCE RATED ASSEMBLY UNLESS A TEST REPORT DOCUMENTING FIRE RESISTANCE IS SUBMITTED TO THE BUILDING OFFICIAL.

    A PROPER BARRIER IS REQUIRED WHEN USING CORROSIVE LUMBER PRODUCTS IN CONTACT WITH THE STEEL LINTELS. A PROPER BARRIER WOULD BE A POLYETHYLENE BARRIER WITH A 10 MIL THICKNESS OR TO MAINTAIN A MIN. 1/4" SPACING BETWEEN THE CORROSIVE LUMBER AND STEEL LINTEL.

    NOT FOR USE IN THE HVHZ IN MIAMI OR BROWARD COUNTIES AT THIS TIME. MIAMI DADE COMPLIANCE IS BEING SOUGHT.

12. ALLOWABLE LOADS SHOWN IN THE TABLES FOR UPLIFT AND LATERAL LOAD CAPACITY INCLUDE A 1/3 INCREASE FOR WIND OR SEISMIC LOADING WITH NO FURTHER INCREASES ALLOWED. IF COMBINED LOADING CONDITIONS ARE APPLIED TO THE LINTELS FOR SIMULTANEOUS LOADING DIRECTIONS, THE ALLOWABLE LOADS SHOWN IN THE TABLES MUST BE ADJUSTED USING A UNITY EQUATION.

13. ALL LOADS SHOWN IN TABLES ARE SUPERIMPOSED LOADS. TABLES ARE DATED 3/2012 AND CLEARLY INDICATE SUPERIMPOSED LOADS.

14. #5 REINFORCING BAR (GRADE 40) IS TO SET APPROX. 1-1/2" FROM TOP OF ALL LINTEL DESIGNS AND IN SOME CASES THE BOTTOM OF LINTEL AS SHOWN ON LOAD TABLES. TOP HORIZONTAL REINFORCEMENT IS TO BE A CONTINUOUS TIE AS NOTED IN NOTE #9. IN THE CASE THAT THE LINTEL IS NOT WITHIN A COMPOSITE BOND BEAM SYSTEM, TOP HORIZONTAL REINFORCEMENT IS TO EXTEND 2'-0" PAST INSIDE OF JAMBS.

15. MANUFACTURER:

    POWERS STEEL
    4118 E. ELWOOD PHOENIX, AZ 85040
    PHONE (602) 437-1160
    FAX (602) 437-5409

16. TECHNICAL DATA AND ENGINEERING POWERS LINTELS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING:

    + FLORIDA BUILDING CODE - 2010
    + NASPEC / AISI LIGHT GAGE COLD FORMED STEEL DESIGN - 2007
    + ACI 530-08/ASCE 5-08/TMS 402-08

    TECHNICAL ASSISTANCE IS AVAILABLE FROM THE MANUFACTURER ON SPECIAL DESIGN CONCERNS OR LINTEL DEPTHS DIFFERENT THAN THOSE SHOWN IN THE LOAD TABLES.

    STRUCTURAL ENGINEER FOR THESE LINTELS IS:

    S.E. CONSULTANTS, INC.
    5800 E. THOMAS RD. SUITE 104
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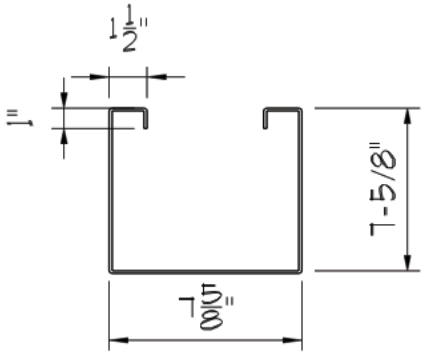
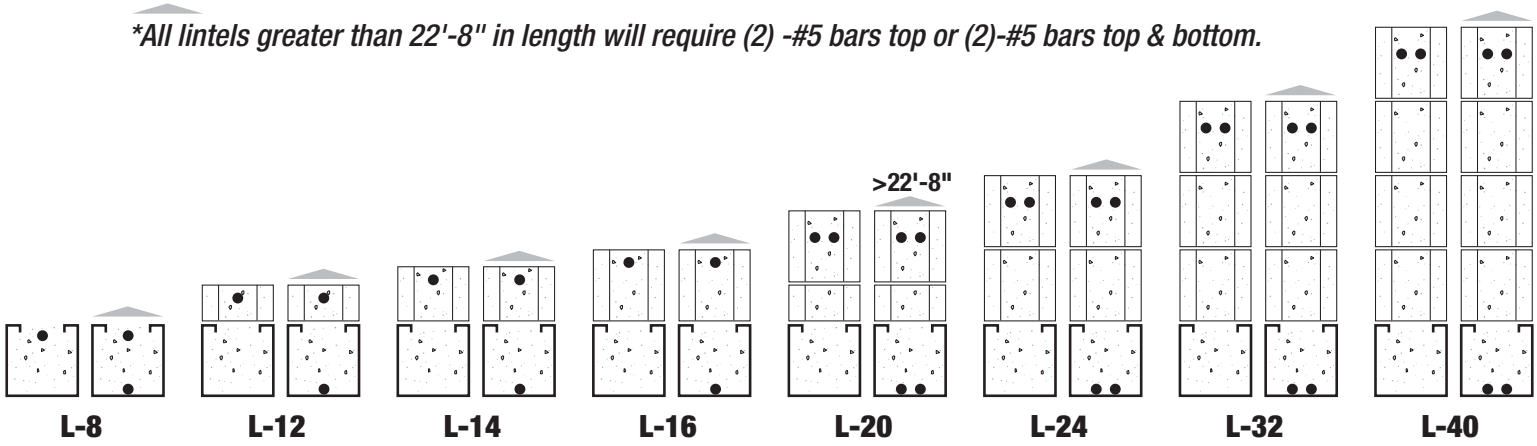


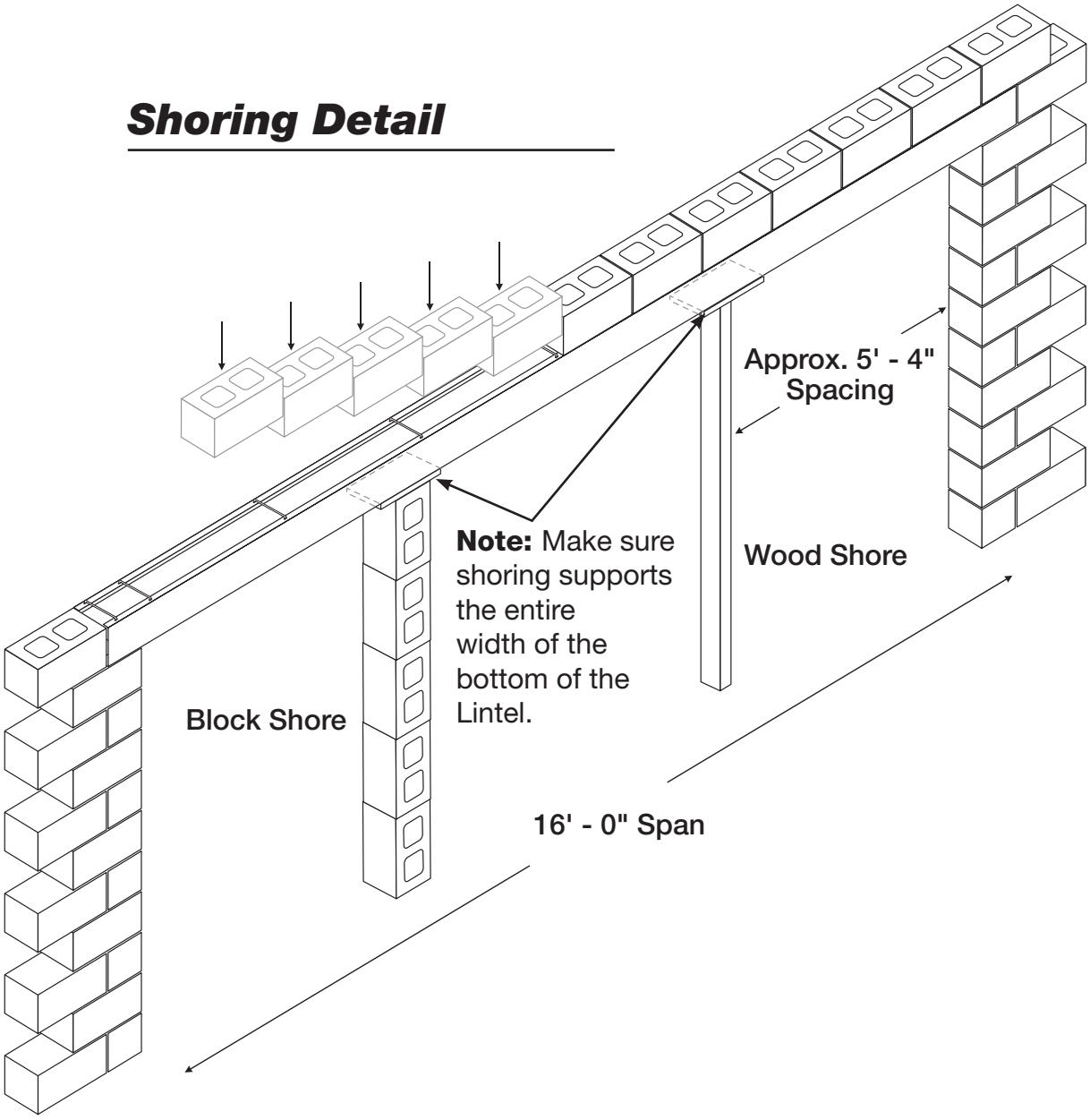
PowerBox8 STEEL LINTELS
NOTE: NO SCALE
16 GAGE IS .060 INCHES THICK.
20 GAGE IS .039 INCHES THICK.

PowerBox Steel Lintel Cross Sections

**All lintels greater than 22'-8" in length will require (2) -#5 bars top or (2)-#5 bars top & bottom.*



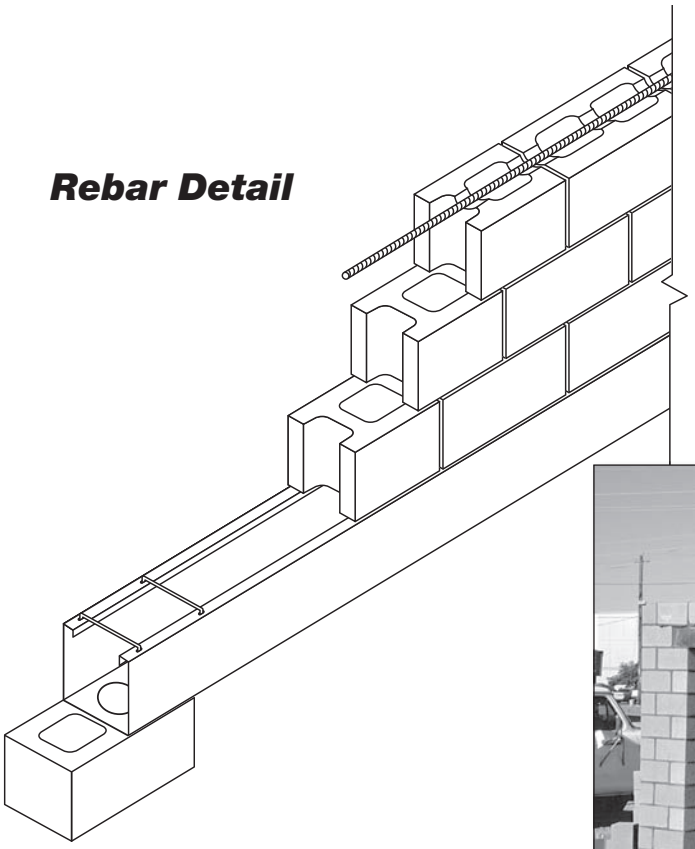
Shoring Detail



PowerBox Lintel Installation Instructions

1. Lay wall to required height and opening.
2. Set Lintel on block with 8" of bearing each end, minimum 4" - see GSN #5.
3. Apply bed joint on front and back of block. Apply head joint on end of block.
4. Place Lintel on block level and square. Proceed as needed with the next course of block.
5. Shore Lintel as required to compensate for dead load deflection on non cured masonry and grout.
6. Shore lintel prior to laying block and grouting.
7. It is recommended to shore lintel in the middle of spans greater than 8'-0" and less than 15'-0". On spans greater than 16'-0" use 2 shores spaced equal distance apart at approximately 5'-4" spacing. On spans greater than 16'-0" place shoring at 8'-0" centers. Make sure shoring is square to Lintel and secure. Make sure shoring supports the entire width of the bottom of the Lintel. (see Shoring Detail)
8. Rod grout adequately to ensure consolidation of grout (no air pockets)
9. Place top #5 rebar grade 40 Set 1.5" from top of all Lintel designs and in some cases in the bottom of the Lintel as shown on Load Tables. (see Rebar Detail)

Rebar Detail

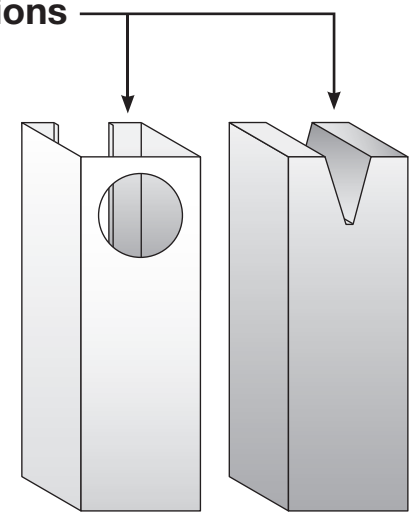


Box Lintel vs. PreCast

Save on Labor with the PowerBox Steel Lintel!

$30,000/Year Labor Savings per 100 houses built. Calculated based upon an hourly wage savings of $300 per house with an average 10 man mason crew.

- **Less Man Power**
- **Safer: Lower Workers Comp Claims**
- **Don't pay for cracked or broken precast**
- **No waiting to set lintels**
- **Pump grout easier without narrow precast cell restrictions**



Available at:

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Corporate Office
501 Thorpe Road
Orlando, FL 32824
Kevin Decker: 407.857.1221
www.MasterConstructionProducts.com

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(602) 454-8828

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