SYMONS®
BY DAYTON SUPERIOR

STEEL-PLY®

QUICK INSTALL GUIDE

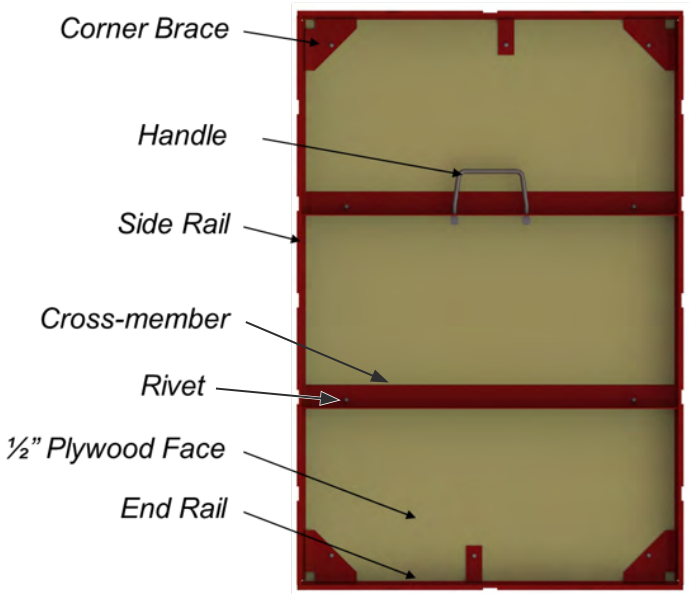
INTRODUCTION

The Steel-Ply components and accessories illustrated herein have been designed with safety and performance in mind to help achieve a safe and productive forming operation. It's recommended that all construction personnel thoroughly familiarize themselves and comply with the applicable industry standards and safe practices established by the American Concrete Institute (ACI), American National Standards Institute (ANSI), The Occupational Safety and Health Administration (OSHA), and the Scaffolding, Shoring and Forming Institute (SSFI). Tie spacings shown are for illustration purposes only. Proper spacing must be determined for individual job conditions. Refer to Ties section for tie capacities. The maximum allowable pour pressure for the Steel-Ply system is 1000 psf.

SYSTEM BASICS

- Panels are lightweight – Approx. 5lbs/ft2
- Maximum pour pressure of 1,000psf
- All-Steel frame with an inset plywood face
- At Symons, we offer over 100 standard Panel and Filler sizes
- We offer Steel-Ply at all locations for rent or purchase

PANEL NOMENCLATURE



CONCRETE POUR PRESSURE CHART

TABLE 1
MAXIMUM LATERAL CONCRETE PRESSURE

RATE OF PLACEMENT R, FT. PER HR.	90°F		80°F		70°F		60°F		50°F		40°F	
	WALLS	COLUMNS	WALLS	COLUMNS	WALLS	COLUMNS	WALLS	COLUMNS	WALLS	COLUMNS	WALLS	COLUMNS
1	663	250	728	263	810	279	920	300	1074	330	1305	375
2	694	350	763	375	850	407	967	450	1130	510	1375	600
3	726	450	798	488	890	536	1013	600	1186	690	1445	825
4	757	550	833	600	930	664	1060	750	1242	870	1515	1050
5	788	650	868	713	970	793	1107	900	1298	1050	1585	1275
6	816	750	903	825	1010	921	1153	1050	1354	1230	1655	1500
7	850	850	938	938	1050	1050	1200	1200	1410	1410	1725	1725
8	881	950	973	1050	1090	1179	1247	1350	1466	1590	1795	1950
9	912	1050	1008	1163	1130	1307	1293	1500	1522	1770	1865	2175
10	943	1150	1043	1275	1170	1436	1340	1650	1578	1950	1935	2400
11	974	1250	1078	1388	1210	1564	1387	1800	1634	2130	—	2625
12	1006	1350	1113	1500	1250	1693	1433	1950	1690	2310	—	2850
13	1037	1450	1148	1613	1290	1821	1480	2100	1746	2490	—	—
14	1068	1550	1183	1725	1330	1950	1527	2250	1802	2670	—	—
15	1099	1650	1218	1838	1370	2079	1573	2400	1858	2850	—	—

NOTES:
1. DATA PROVIDED IN THIS TABLE IS FOR INFORMATIONAL PURPOSES ONLY. FINAL DESIGN SHALL BE BASED ON ACI 347R–14.
2. INDICATED CONCRETE PRESSURE VALUES MUST BE MULTIPLIED BY APPROPRIATE UNIT WEIGHT (Cw) AND CHEMISTRY (Cc) COEFFICIENTS AS DEFINED IN TABLES 2 AND 3 BELOW.
3. THIS TABLE IS ONLY VALID FOR CONCRETE WITH A SLUMP LESS THAN OR EQUAL TO 7" MEASURED AFTER THE ADDITION OF ALL ADMIXTURES.
4. INTERNAL VIBRATION SHALL BE LIMITED TO A DEPTH OF NO MORE THAN 4', NO OTHER MEANS OF VIBRATION ARE PERMITTED.
5. WALLS ARE DEFINED AS VERTICAL ELEMENTS WITH AT LEAST ONE PLAN DIMENSION EXCEEDING 6'–6".
6. MAXIMUM PRESSURE FOR WALLS LESS THAN 14' IN HEIGHT WITH A POUR RATE LESS THAN 7 FT/HR MAY BE CONSIDERED COLUMNS.
7. COLUMNS ARE DEFINED AS VERTICAL ELEMENTS WITH NO PLAN DIMENSION EXCEEDING 6'–6".
8. RE–VIBRATION OF SETTING CONCRETE WILL CAUSE THE CONCRETE TO REVERT BACK TO A LIQUID STATE. IF RE–VIBRATION IS REQUIRED, THE LATERAL PRESSURE MUST BE CALCULATED AS FULL LIQUID HEAD TO THE DEPTH OF THE RE–VIBRATION.

KEY COMPONENTS

Wedge Bolts



- Main attachment method
- Two required per use
- One connects, second clamps
- Goes through Ties at tie-location

Safety Eyes



- The installation of Safety Eyes on Steel-Ply panels allows easy attachment of safety belts
- The Safety Eye meets the requirements of OSHA (29 CFR Part 1926) subpart M 1926.502d15.

Waler Clamps





- Straight form run utilizing standard 2x4 lumber
- Used to align and keep form straight during pour process
- Easily attached by one person

S/P Lift Bracket



- Used in gang form application
- 2,000 lbs. SWL
- 5:1 Factor of Safety

Scaffold Bracket



- 500 lbs. SWL
- Provides for work platform creation.
- 4:1 Factor of Safety

TIE TYPES

2 Types Available

S-Panel Ties (1" Break Back)



X-Flat Ties (1/4" Break Back)



- Both go through dados in the side rails
- Both connected with wedge bolt thru rails
- Ties are ordered based on wall thickness

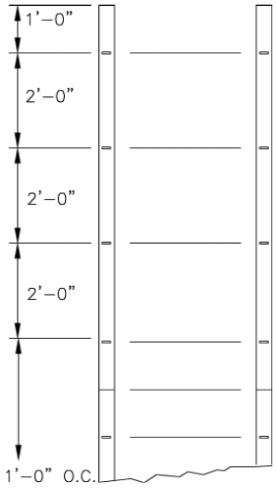
TIE LOAD RATINGS

Safe Load Ratings
Symons S-Panel and Flat Ties

Tie Type	Ultimate Load (lb)	Rating According to Factor of Safety 2.0(lb)
Standard Duty Panel Tie	4,500	2,250
Standard Duty Threaded Tie (1)	4,200	2,100
Standard Duty S-Base Tie	3,000	1,500
Heavy Duty Panel Tie	6,000	3,000
Standard Duty Flat Tie	6,000	3,000
Heavy Duty Flat Tie	7,000	3,500
Heavy Duty Adjustable Flat Tie	7,000	3,500
Toggle Tie (1)	4,200	2,100

TIE SPACING

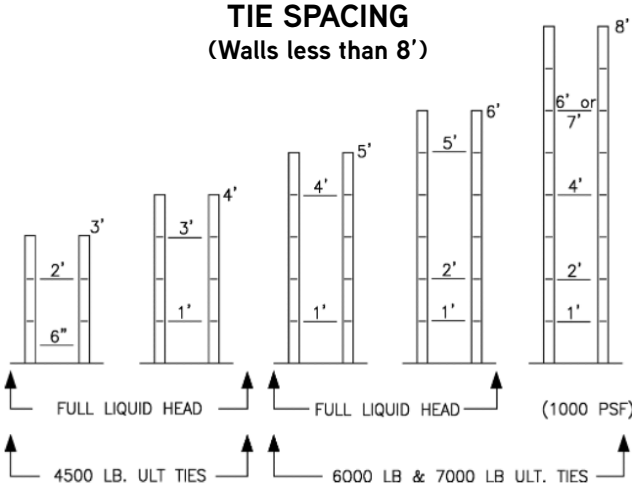
(Walls more than 8')



TIE SPACINGS
Walls Taller Than 8'
6,000 Lb Ultimate Tie Capacity

TIE SPACING

(Walls less than 8')



- Space Ties from the top 1',3', 5', 7' then 1' o.c. to the bottom
- The American Concrete Institute requires a 2:1 safety factor on ties for all pour heights