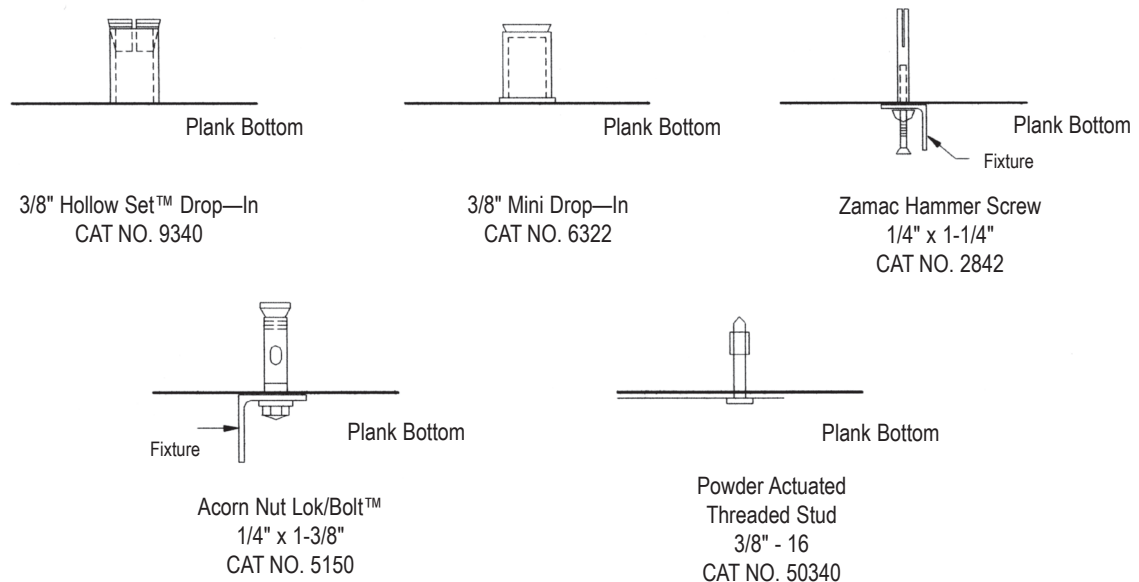


BOTTOM INSERTS - POWERS FASTENERS

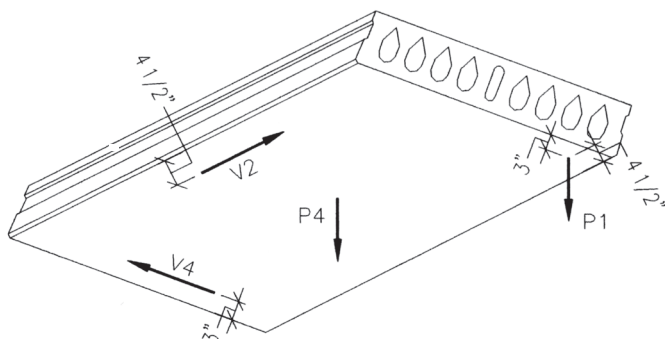
As part of a program for evaluating inserts used in Spancrete® hollowcore plank, five types of inserts manufactured by Powers Fasteners, Inc. were installed in the test plank bottom, directly under cores where the bottom thickness is 1-1/8".



CONCLUSIONS:

1. Drilled sleeve type inserts are an economical and acceptable way of fastening to a Spancrete plank.
2. It is critical that the type of anchor does not extend into the core, that the embedment be at least $\frac{3}{4}$ ", and that the manufacturer's specified installation procedures be followed.
3. Holding power is reduced when insert is located near any plank edge and in thin concrete sections.
4. If the concrete spalls into the core during drilling, the insert should not be used at that location.
5. Test values must be reduced by appropriate strength reduction factors and safety factors to obtain working load values.

Test results are given on the reverse side.



BOTTOM INSERT TEST SETUP

CAT NO.	PRODUCT DESCRIPTION	DRILL BIT DIA. (in.)	EMBED DEPTH (in.)	ULTIMATE TEST LOADS (lbs)				
				P1	P4	V2	V4	
9340	3/8" Hollow Set Drop-In	5/8"	3/4"	AVG.	1967	2523	3772	2723
				LOW	1470	2020	2530	2080
6322	3/8" Mini Drop-In	1/2"	3/4"	AVG.	2284	2346	2372	2088
				LOW	1590	1910	1790	760
2842	Zamac Hammer Screw 1/4" x 1 1/4"	1/4"	3/4"	AVG.	754	875	925	981
				LOW	670	670	710	600
5150	Acorn Nut Lok/Bolt 1/4" x 1-3/8"	1/4"	3/4"	AVG.	1338	879	1252	885
				LOW	1040	710	730	620
50340	3/8"—16 Powder Actuated Threaded Stud	-	3/4"	AVG.	N/A	1129	1028	942
				LOW	N/A	970	790	700

NOTE:

1. Test values must be reduced by appropriate strength reduction factors and safety factors to obtain working load values. For more information on anchor design and installation, please refer to either the latest edition of Power's Fastening Systems Design Manual or www.powers.com.
2. All tests were performed at Power Fastener's Technical Center in New Rochelle, NY: and in accordance with ASTM E—488, Standard Test Methods For Strength of Anchors in Concrete and Masonry Materials. Five tests were done for each load case.

MIDWEST

Hanson Structural
Precast Midwest, Inc.
Maple Grove, Minnesota

Spancrete, Inc.
Green Bay, Wisconsin

Spancrete Industries, Inc.
Waukesha, Wisconsin

Spancrete of Illinois, Inc.
Arlington Heights, Illinois

Wells Concrete
Wells, Minnesota

WEST

Hanson Structural
Precast Pacific, Inc.
Irwindale, California

KIE-CON

Division of Kiewit Pacific Co.
Anitoch, California

Owell Precast
Sandy, Utah

SOUTHWEST

Manco Structures, Ltd.
Schertz, Texas

SOUTH

Cement Industries, Inc.
Fort Myers, Florida

Florida Precast Industries, Inc.
Sebring, Florida

EAST

Mid-Atlantic Precast, LLC.
King George, Virginia

EGYPT

Samcrete Egypt
Ahram, Giza

MEXICO

ITISA
Mexico City, Mexico

Spancrete Noreste
Monterrey, Mexico

CROATIA

Mucic & Co
Dugopolje, Croatia

CARIBBEAN

Preconco Limited
Barbados, West Indies

TURKEY

Yapi-Merkezi
Camlica-Istanbul, Turkey

UAE

Hi-Tech Concrete
Products LLC
Abu Dhabi, UAE

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Guatemala	South Korea
Hungary	Switzerland

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