

Span Notes



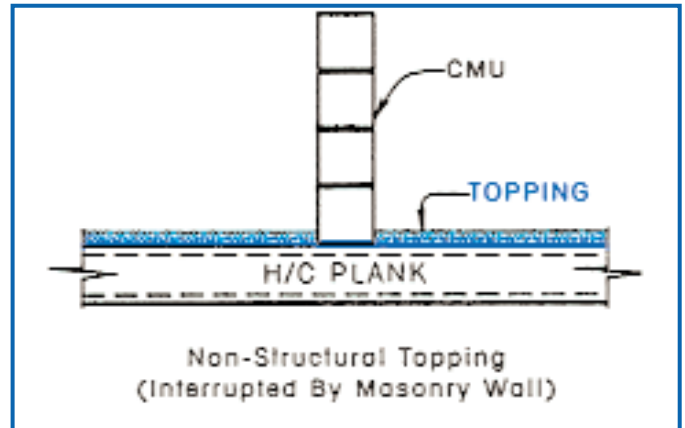
No. 11

Topping off your Prestressed Hollowcore Floor

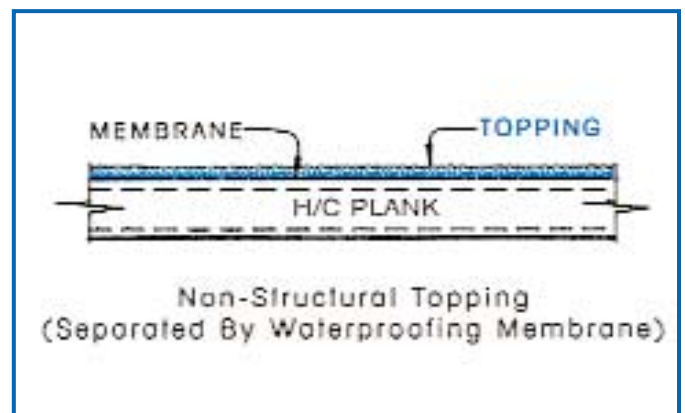
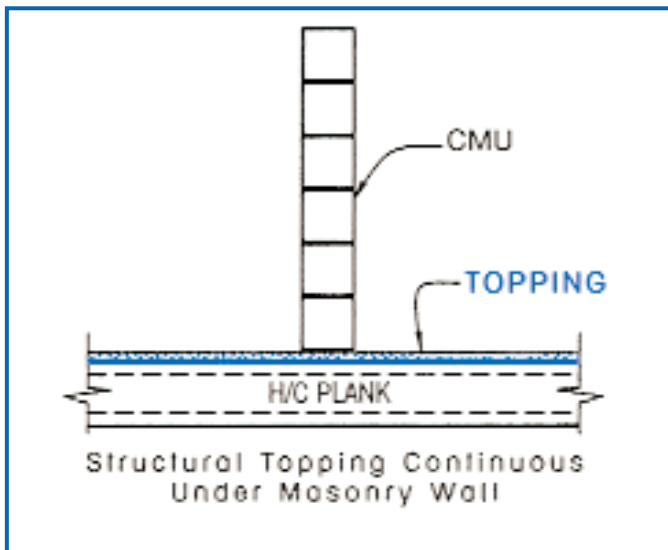
Toppings are frequently used in conjunction with hollowcore plank floor systems. The type selected is dependent on the intended use of the floor and can be cosmetic (non-structural) in nature or structural, contributing to the structural capacity of the floor system. When designing a floor system the following finishing options are available.

1. **Structural Topping** is a specified thickness structural concrete (2" - 2-1/2" minimum but local codes may require more) and is usually a 3000 psi minimum mix bonded to the top of the hollowcore plank using approved cleaning and bonding procedures. This topping must be continuous from support to support, uninterrupted by walls,* expansion joints, or large embedded conduits. Structural toppings work with the plank as a composite unit to distribute loads, add stiffness and strength for gravity loads, act as a diaphragm (if properly reinforced), minimize vibration and improve fire ratings of the floor system.

- * Structural integrity may be compromised by placing walls directly on top of the hollowcore plank as shown in this sketch. Please inquire or verify with your local manufacturer for specific applications.



2. **Non-Structural Toppings** are fill toppings (concrete, light weight concrete, gypsum-based materials, or asphalt) that in some cases may be separated from the Spancrete plank by a bond breaker, waterproof membrane, vapor or moisture barrier. Non-structural toppings are used to compensate for camber (level floors), create drainage, increase fire rating, provide a wearing surface, etc. Toppings used in non-composite situations of this nature are considered to be superimposed dead loads as they do not contribute to the structural load capacity of the precast plank.



3. **Skim Coat Underlayment** is a cost effective method of preparing tops of hollowcore plank. It consists of a trowel-applied thin layer of a latex or epoxy modified silica sand and cement mix to blend or smooth surface imperfections but it is not intended to level the floor.

- A partial latex underlayment treatment can be applied to the plank keyways as required to maintain a tolerance of 1/8" between adjacent plank, suitable for adequate pad and carpet.
- A full latex underlayment skim coat can be applied of a sufficient thickness to properly prepare the plank to receive the finish floor material.



Helpful Hints

- To obtain proper bond of topping to hollowcore plank, the precast surface must be clean and thoroughly damp with no standing water. Precautions must be taken to clean the Spancrete surface of all laitance. For pad and carpet applications we also recommend reviewing Span Note #3 and for tile installation review Span Note #8.
- Shear keyways must be grouted and cured following standard installation procedures **before** topping is applied. It is important to note that topping alone will not completely fill the keyways, thus compromising the shear key's ability to function as intended.
- Thickness of topping is always measured at high point of camber. An allowance for additional concrete must be included at bearing ends of plank where camber is minimal and/or where pitch in the topping surface is desired (e.g. for drainage).
- Reinforcing in the topping may be required for continuity or diaphragm design. If not, consideration should be given to using minimum shrinkage reinforcement for crack control. WWF or fiber reinforcing should be used based on design engineer or record recommendations.
- When control joints are used in a structural topping, they should be located over the joints in the precast units.

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EAST

Oldcastle Precast East, Inc.

P.O. Box 218/123 CR 101
South Bethlehem, NY 12161
Telephone (518) 767-2269
Fax (518) 767-9390

Oldcastle Precast East, Inc.

155 State Street
Manchester, NY 14504
Telephone (716) 289-3530
Fax (716) 289-9263

Concrete Precast Systems, Inc.

4215 Lafayette Center Dr., Ste. 1
Chantilly, VA 20151
Telephone (703) 222-9700
Fax (703) 222-6998

MIDWEST

Kerkstra/Spancrete Great Lakes

1330 Chicago Drive
Jenison, MI 49428
Telephone (616) 224-6176
Fax (616) 224-2651
Toll-Free 1-800-434-5830

Spancrete, Inc.

P.O. Box 10508
2448 Century Road
Green Bay, WI 54307-0508
Telephone (920) 494-0274
Fax (920) 494-7901

Spancrete Industries, Inc.

N16 W23415 Stoneridge Drive
Waukesha, WI 53188
Mail: P.O. Box 828
Waukesha, WI 53187-0828
Telephone (414) 290-9000
Fax (414) 290-9125

Hanson Spancrete Midwest, Inc.

P.O. Box 1360
Maple Grove, MN 55311
Telephone (763) 425-5555
Fax (763) 425-1277

Spancrete of Illinois, Inc.

4012 Route 14
Crystal Lake, IL 60014
Telephone (815) 459-5580
Telephone (773) 775-6402
Fax (815) 459-0510

WEST

Hanson Spancrete Pacific, Inc.

13131 Los Angeles Street
Irwindale, CA 91706
Telephone (626) 962-8751
Fax (626) 962-8752

Kie-Con

A Division of Kiewitt
3551 Wilbur Avenue
Antioch, CA 94509
Telephone (925) 754-9494
Fax (925) 754-0624

SOUTHWEST

Gate Concrete Products, Co.

3201 Veterans Drive
Pearland, TX 77584
Mail: P.O. Box 38
Pearland, TX 77588-0038
Telephone (281) 485-3273
Fax (281) 485-7644

SOUTH

Cement Industries, Inc.

2709 Jeffcott Street
Fort Myers, FL 33901-5337
P.O. Box 823
Fort Myers, FL 33902-0823
Telephone (941) 332-1440
Fax (941) 332-7144
Toll-Free 1-800-332-1440

Gate Concrete Products Co.

402 Heckscher Drive
Jacksonville, FL 32226
Telephone (904) 757-0860
Fax (904) 751-5435
Toll-Free 1-800-227-8591

Spancrete of Florida, LLC

400 Deer Trail East
Sebring, FL 33870
Telephone (863) 655-1515
Fax (863) 655-1215
Toll-Free 1-888-633-1515

BRAZIL

REAGO Indústria E Comércio S.A.

Av. Marginal Do Rio Jundiá 650
Distrito Industrial Jundiá-SP
Caixa Postal 451
Sao Paulo, Brazil 13212-780
Telephone 55-11-7392-8288
Fax 55-11-7392-8625

ISRAEL

Spancrete of Israel

Kibbutz Palmachim
D.N. Emek Sorek
Palmachim 76-980
Telephone 972-3-948-2500
Fax 972-3-965-8089

MEXICO

ITISA

Rio Tiber 78 Col. Cuauhtemoc
Mexico, D.F.C.P. 06500
Telephone 525-229-8500
Fax 525-229-9938

TURKEY

Yapi Merkezi

H. Resit Pasa So. 7
Çamlıca-Istanbul, 81180 Turkey
Telephone (90) 216-321-9000
Fax (90) 216-321-9013

WEST INDIES

Spancrete Caribbean Ltd.

P.O. Box 808, Port of Spain
Trinidad W.I.
Telephone 868-645-5555/9
Fax 868-645-6161

MACHINE

MANUFACTURER:

Spancrete Machinery

Corporation

N16 W23415 Stoneridge Drive
Waukesha, WI 53188
Mail: P.O. Box 828
Waukesha, WI 53187-0828
Telephone (414) 290-9000
Fax (414) 290-9130

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