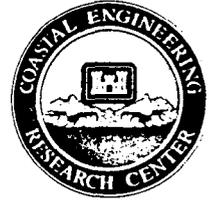




Coastal Engineering Technical Note



AVAILABILITY OF CONCRETE ARMOR UNIT FORMS

PURPOSE: To provide an inventory of concrete armor unit forms which are available for Corps field office use. A contact for each source is also provided.

GENERAL: Many different-shaped concrete armor units are currently being used to protect rubble mound breakwaters and other coastal structures. These units usually have a higher stability coefficient than quarrystone. Greater stability permits the use of lighter weight units and steeper structure side slopes, provided that the units do not move significantly and are structurally sound.

The cost of concrete armor unit forms can amount to a significant percentage of the unit's total manufacturing cost. This is especially true for the more complicated shapes such as the dolos.

SOURCES FOR OBTAINING FORMS: Forms for manufacturing concrete armor units may be obtained from private industry with an inventory, and private companies which build forms.

PRIVATE INDUSTRY WITH FORMS AVAILABLE FOR SALE OR RENTAL:

<u>OWNER</u>	<u>FORMS</u>	<u>CONTACT</u>
Bohemia, Inc. 85647 Hwy 99S Eugene, OR 97405-8625	14, 7-1/2 ton tribar (located at Hilo, HI)	Bill Sievers (503) 342-6262
Pipe Incorporated P.O. Box 11305 Portland, OR 97211	16, 42-ton dolos	Jack Williams (503) 285-8391
Granite Construction Co. P.O. Box 50024 Watsonville, CA 95077	38, 21-1/2 ton tribar	Tom Kyle (408) 722-2716
E.T. Ige Const., Inc. P.O. Box 796732 Wailuku, Maui, HI 96793	4, 19-ton tribar 3, 11-ton tribar 10, 9-ton tribar 9, 6-1/2 ton tribar	Pat Murakami (808) 244-7957

<u>OWNER</u>	<u>FORMS</u>	<u>CONTACT</u>
Construction & Pavage Portneuf 599 Boulevard Dussault Saint-Marc Des Carrieres Portneuf, Quebec GOA 4B0 Canada	10, 16-1/2 ton (15 tonne) tetrapod 10, 6-1/2 ton (6 tonne) dolos 10, 9-ton (8 tonne) dolos 10, 11-ton (10 tonne) dolos 10, 13-ton (12 tonne) dolos	Francois Groleau (418) 268-3558
A.S.L.K. Construction Ray-Bo Canada Ltee 5724 Banville Apt. 9 Quebec City, Quebec G1P 1H6 Canada	15, 6-ton dolos 15, 4-ton dolos	Raymond Bouchard or Felix Nunez (418) 871-0062

PRIVATE COMPANIES WHICH BUILD FORMS FOR SALE:

<u>COMPANY</u>	<u>FORMS</u>	<u>CONTACT</u>
Concrete Armor Systems 311 Broadway Newburgh, NY 12550	Sta-Pod Any size and number of forms manufactured Also cast-iron and concrete cubes	Raymond O'Neill (908) 974-0129
EFCO Form Co. 1800 N E Broadway Des Moines, IA 50313	Any type, size and number of forms	Bill Kunkel (515) 266-1141
Hamilton Form Co. 7009 Midway Road Ft. Worth, TX 76118	Any type, size and number of forms	Steve Johnson or Skip Plotniki (817) 589-2141
Burke Co. P.O. Box 547 Converse, TX 78109	Any type, size and number of forms	(512) 658-4671