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FIBREGLASS WATER TANKS

A recent product which will be of interest to many territories concerned with problems of water supply for small communities and for rural areas, is the ribbed fibreglass water tank. The tanks are made entirely of fibreglass, the top and bottom consisting of flat fibreglass sheets, and the wall of a single sheet of fibreglass with moulded-in vertical ribs, wrapped around with a continuous length of jointless fibreglass rod, having a tensile strength exceeding that of ordinary mild steel. The tanks, which are cylindrical in shape, are designed to be assembled on site, being supplied in kit sets for this purpose.

Each kit set consists of a roll of wall sheeting, top and bottom sheets in sections of a size that is easily handled, a coil of extruded fibreglass rod, epoxyresin putty and epoxyresin surface coat and hardener for setting both, brass screws and nuts, acetone solvent, 3 measuring containers each, for putty, surface coat and hardener, paint-brush, screwdriver, spatula, mixing containers, and stirring rods. For small tanks (below 6 feet in diameter) the top and bottom are supplied in two (2) single, circular sheets.

Assembly is carried out by bolting the sectors of the top and bottom sections together to form two circular plates with a shallow channel around the circumference of each. All bolt holes are pre-drilled, and joints are sealed by placing a layer of epoxyresin putty, to which hardener has been added, between the mating surfaces. The wall sheet is then unrolled and the ends joined to form a continuous belt. Joining is again carried out by screwing brass bolts through pre-drilled holes, and sealing the joint with epoxyresin putty. After an interval of 12 hours to allow the jointing compound to harden, the tank wall is lifted and placed in the shallow channel around the periphery of the floor section, the channel being filled with epoxyresin putty to form a watertight joint. The top of the tank is then fixed in place in the same fashion. When the top is fixed, inlet and outlet fittings can be inserted by cutting a neat hole in the wall and sealing the filling in place with epoxyresin putty.

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The tank is then reinforced by winding the fibre-glass rod horizontally around it, guide notches being provided in the vertical ribs of the wall to locate the reinforcing rod accurately. The ends of the rod are fixed under moulded chips and held in place by tightening a brass locknut. To lock the wound horizontal ribbing in place and to provide additional strength and weather protection to the tank, the epoxy-resin surface coat is then painted over the outside of the tank, and after allowing a 24 hour period for hardening the tank is ready for use. Should accidental damage occur to any of the fibreglass sections, repairs are easily effected by smearing a mixture of putty and hardener or hardener and surface coat over the damaged area and leaving it to harden.

The particular advantages claimed for this type of water tank are as follows:

- 1) Absolute corrosion resistance - a very important consideration on small atolls.
- 2) Completely hygienic and non-toxic storage of water in a container which will not taint or colour the contents.
- 3) No maintenance required. Tanks may be painted if required for appearances' sake, but this is not essential.
- 4) Extreme lightness and compact packaging in crates which may be manhandled if necessary. This is a particularly valuable asset in remote areas in difficult country.
- 5) Simplicity of construction. No special skill is needed.
- 6) High strength and very high impact resistance.
- 7) Easy to repair.
- 8) Speed of construction. A 10,000 gallon reservoir can be completed in 2 or 3 days. A reinforced concrete reservoir of comparable size would take as many weeks.
- 9) No interference with radio equipment.

Certain precautions are necessary to ensure that a fibreglass tank will not be damaged in use however.

- 1) Because of its lightness, the tank should be securely anchored to prevent its being blown away when empty.

- 2) The tank must be supported over the whole bottom area on a smooth, level foundation - wood, concrete, level compact sand or stable soil.
- 3) The tank should be protected from access and possible damages by animals.
- 4) The area around the tank should be cleared of flammable materials such as bushes or high grass.

The tanks are available in a range of designs with standard heights of 3 feet and 6 feet and capacities of 120, 250, 500, 1,000, 1,500, 2,000, 2,500, 3,000, 5,000, 10,000, and 20,000 gallons. Typical prices for materials only are:

500 gallon tank	-	approximately \$A100
3,000 gallon tank	-	approximately \$A300
10,000 gallon tank	-	approximately \$A800

These prices are for materials only. Export packaging costs are additional, but are waived when 3 or more tanks of the same size are ordered in one shipment. Payment of freight is similarly waived for multiple orders.

Further information concerning these tanks is available from the South Pacific Commission.

This circular has been prepared from technical literature published by the manufacturer concerned. Distribution by the South Pacific Commission does not imply approval of the products or any commercial association with the manufacturer. In the opinion of the Commission's Public Health Engineer, however, water tanks of the type described in this circular are likely to be well-suited to conditions in the Pacific territories.

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