

1/2 **Totally Tubular: Earthbag Innovation**

A natural stress-skin panel building system of light fiber and clay upper walls on a heavy earthbag or masonry base.

ACKNOWLEDGEMENTS

HYPER-WATTLE IS BASED ON THE SHARED RESEARCH AND EXPERIENCE OF MANY EARTH BUILDERS, INCLUDING (IN ALPHABETICAL ORDER) DR. JOHNNY ANDERTON, FRANK ANDRESEN, KELLY HART, JEREMY HOLLOMAN, KAKI HUNTER, DONALD KIFFMEYER, GERNOT MINKE, FERNANDO PACHECO, BILL AND ATHENA STEEN, NABIL TAHA, AND JESSA TURNER.

SPECIAL THANKS TO DR. OWEN GEIGER FOR ONGOING ADVICE ABOUT EARTH BAG AND ABOUT THIS PROPOSAL TO COMBINE LIGHTER WALLS WITH EARTH BAG.

40 US AND OVERSEAS COMPANIES HAVE BEEN SURVEYED TO FIND MESH SOURCES. THANKS TO THE FOLLOWING SUPPLIERS, WHO DONATED SAMPLES FOR PRELIMINARY TESTING:

RASCHEL MESH FOR HYPERADobe AND WATTLES- BAG SUPPLIES CANADA, OF STRATFORD, ONTARIO.

STRONG UV-RESISTANT VEXAR MESH 6", 8" AND 9" DIAMETER- MASTERNET LIMITED OF MISSISSAUGA, ONTARIO, CANADA. THE 9" MESH MAY BE APPROPRIATE FOR SOME EARTHEN FILLS. ROLLS OF 3,000 OR 4,000 LF OR SMALLER ORDERS.

STRONG CROCHETED UV-RESISTANT MESHES (INCLUDING BIO-DEGRADABLE)- SYFILCO OF EXETER, ONTARIO, CANADA, (NOT A RETAIL SUPPLIER).

CROCHETED MESH TUBING FOR 10" DIAMETER + WATTLES- BLUEFIRE/ MESH BAG DIRECT OF ORLANDO, FL (16" LAYFLAT) AND VOLM OF ANTIGO, WI (18- 20" LAYFLAT) .

VEXAR MESH FOR 10" DIAMETER + WATTLES- QUALITY PACKAGING SYSTEMS, YORBA LINDA, CALIFORNIA, US (P1018). SOLD IN 16,000 LF ROLLS.

Solution

A Haitian pastor/ agronomist planning earthbag aid buildings asked me last year for an easy and cheap way to build infill walls in an existing structural frame. Could trash be used for building? This hyper-wattle system is dedicated to Gueston Pacius and his extended family.

Earthbag construction is strong and heavy, well suited to wall bases. Earthbags can be built thinner to reach window sill level than when used for the full wall height.

Hyper-wattle upper walls are based on proven straw-clay or light wood chip clay (leichtlehm or terre-paille) used for timber frame infill in Europe and the US. A matrix of mesh and light outer reinforcements will transform this into a structural skin material strong enough for modest-sized single story buildings with light-

weight roofs. Placing these clay rich tubes on rubble and/ or earthen base walls gives extra strength and

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Creative's profile



PStouter PRO
site and building designer

Creative's top 5 skills

Architecture