PERANCANGAN PRODUK *FOLDABLE WATERTANK* DENGAN MENGGUNAKAN METODE *QUALITY FUNCTION DEPLOYMENT* (*HOUSE OF QUALITY* DAN PETA MORFOLOGI)

TUGAS AKHIR

Karya tulis sebagai salah satu syarat
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ABSTRAK

Kebutuhan air merupakan kebutuhan yang dirasa sangat penting bagi kehidupan manusia. Salah satu cara menjaga air adalah dengan membuat suatu atau penyimpanan air yaitu watertank. Namun dalam penggunaan watertank tersebut masih menimbulkan masalah pagi para penggunanya yaitu ketika akan menempatkannya dimana bentuk dari watertank sendiri memiliki bentuk yang besar, sehingga penempatan watertank tersebut harus diperhatikan. Salah satu yang diperhatikan adalah akses jalannya, dari akses jalan tersebut jika suatu rumah atau bangunan berada diarea padat penduduk, hanya memiliki satu akses pintu maka watertank tersebut akan sulit melewati akses jalan yang telah disebutkan sebelumnya. Tujuan dari penelitian ini sendiri adalah mengidentifikasi keinginan konsumen terhadap produk watertank untuk nantinya di buat suatu rancangan produk yang dapat menjadi solusi permasalahan yang disebutkan sebelumnya. Perancangan produk watertank ini sendiri menggunakan metode yang sesuai dengan kebutuhan konsumen, yaitu menggunakan metode Quality Function Deployment. Data sendiri didapat dari konsumen secara langsung menggunakan kuisioner menghasilkan 10 atribut tentang produk rancangan yang seperti bahan watertank, bahan rangka penyangga, bentuk watertank, bentuk alas penyangga watertank dan atribut lainnya. Didalam penggunaan metode tersebut juga didalamnya terdapat alat matriks House of Quality yang digunakan untuk mengetahui tingkat hubungan setiap atribut produk dan juga Peta Morfologi yang digunakan untuk mendapatkan alternatif terpilih untuk produk rancangan. Dari hasil perancangan berbahan polyethylene, bahan rangka penyangga yaitu besi alumunium, watertank berbentuk cylinder, bentuk alas penyangga yaitu alas plat tidak berlubang, baut yang digunakan untuk rangka adalah baut hexagon head bolt, lalu untuk mekanisme lipat watertanknya sendiri yaitu lipat horizontal dimana mekanisme lipat ini akan menggambarkan arah lipatan dari produk rancangan, dan atribut terpilih lainnya. Untuk bentuk dan bahan lipatan dan juga ditentukan oleh perancang sendiri.

Kata Kunci : Kebutuhan Air, WaterTank, Perancangan Produk, Quality Function Deployment, matriks House of Quality, Peta Morfologi.

DESIGN FOLDABLE WATERTANK PRODUCT BY APPLYING QUALITY FUNCTION DEPLOYMENT (*HOUSE OF QUALITY AND MORPHOLOGY CHART*)

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ABSTRACT

The need for water is a necessity that is considered as very important needs for human life. One way to maintain water is to create water storage or water tank. However, the use of the water tank is still causing problems for the people who use it, especially when the shape of the water tank itself has large shape, so the placement of the water tank must be considered. One thing to note is the access road, from the access road, if a house or building is in a densely populated area, it only has one access door, then the water tank will be difficult to pass through the road access previously mentioned. The purpose of this study itself is to identify consumer desires for water tank products to make a product design that can be a solution to the problems mentioned earlier. The design of this water tank product itself uses consumer needs method, that is the Quality Function Deployment method. The data is obtained from consumers directly using a questionnaire that produces 10 attributes about the design product such as water tank material, support frame material, water tank shape, water tank buffer base shape, and other attributes. In the use of this method, there is also a House of Quality matrix tool that is used to determine the level of relationship between each product attribute and also a Morphological Map which is used to obtain the selected alternative for the product design. From the results of the design made from polyethylene, the supporting frame material is aluminium iron, the water tank is in the form of a cylinder, the shape of the support base is the plate base is not perforated, and the bolts used for the frame are hexagon head bolts, then for the folding mechanism of the water tank itself, namely horizontal folding where this folding mechanism will describe the folding direction of the design product, and other selected attributes. The shape and material of the folds and also determined by the designer himself.

Keywords: Water Demand, Water Tank, Product Design, Quality Function Deployment, House of Quality Matrix, Morphological Map.

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