FURTHER PROGRESS IN THE USE OF RUBBER FOR IMPROVEMENT OF IMPACT RESISTANCE IN FERROCEMENT BOATS

M. A. U. G. Fernando.* M. R. N, Fernando,**
M. Nadarajah**, P. Dahanayake*

The property of ferrocement boats which needs improvement is its impact resistance. This paper reports work done to improve this property :

(a) By incorporating natural rubber into the portland cement at 10% by weight in the form of low ammonia centrifuges latex for the improvement of impact strength from the stand point of fracture

(b) By lining the ferrocement boat with rubber sheets which vulcanise at room temperature in the sunlight for the purpose of improving impact strength from the stand point of impermeability.

A summary of results, of research and experimental work, for above properties; which has been carried out so far can be given as follows :

(a) Improved impact strength of rubber latex-portland cement mortars–

1. Impact strength of c/s mortar alone (w/c-35%) 49 joules (Table 2)

2. Impact strength of c/s mortar with 10% LA centrifuges latex 163 joules (Table 2)

3. Impact strength c/s mortar with vulcanised rubber lining 613 joules (Tables)

(b) Properties of vulcanised rubber which is used in lining ferrocement boats-

**Building Research Institute, Colombo 5.*

***Rubber Research Institute of Sri Lanka.*

(Table 3) of the paper, shows the improvement of tensile strength of vulcanised rubber with curing purposes. The results show that high tensile strength is obtained by room temperature vulcanisation and sunlight cured rubber compounds used in experiments to line ferrocement-boats.

(c) Adhesive bond strength between ferrocement slab and vulcanised rubber–

Results (Table 4) show that adhesive bend strength (i.e. 7 psi) is adequate to overcome the frictional resistance on the hull of vessel (i.e. $1\ 25 \times 10^3$ psi.)

(d) From the standpoint of impact strength as well as impermeability, further research is in progress and further information will be published later

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