PONTOON MODIFICATION ON FLOATING DOCK TO AVOID WASTE THE TIME ON REPARATION

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ABSTRACT

During the time when doing repair pontoon on the floating dock 1 at PT.Surabaya Shipping Dock by lifting ability 3500 TLC (Ton Lifting Capacity), unload tide system on floating dock still haven ’t efficient, because pontoon by floating dock side wall in fix condition and while one of pontoon be repaired there is large gap so that anticipate to be deflection in that part.

From it's case planned a floating dock by 5, 6 and 7 pontoons and construction system in order to pontoon arrangement and also for strength on floating dock so that can decrease deflection in part wich will be repaired. From it’s planning floating dock by 5 pontoons has lifting capacity 2300 TLC, and be tried by ship wich has 2189 ton weight produce stress 3.12 N/mm² and maximum deflection 2.8 x 10⁻² mm, floating dock by 6 pontoons has lifting capacity 2900 TLC, and be tried by ship wich has 2834 ton weight produce stress 0.78 N/mm² and maximum deflection 8.2 x 10⁻⁴ mm, floating dock by 7 pontoons has lifting capacity 3500 TLC, and be tried by ship wich has 3405 ton weight produce stress 0.03 N/mm² and maximum deflection 1.8 x 10⁻⁶ mm.

Based to BKI (Bureau of Classification Indonesia), Volume 2, Section 5 in 2006, maximum stress wich is permitted ≤ 192.3 N/mm², from calculation of plantation floating dock by 5, 6 and 7 pontoons, all are permitted BKI rules. Pontoon arrangement cause changing on stress and deflection 11.44 N/mm² and 0.409 mm for it’s 6 pontoon and 37.94 N/mm² and 5.23 mm for it’s 5 pontoon.

Keyword: pontoon, floating dock, unloading pairs, repair, deflection.