

## **Analysis of the process of iron sand processing into sponge iron in order to support the defense industry of steel raw materials**

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### **Abstrak**

The number of iron sand reserves is mostly spread in the coastal waters of Indonesia, from the coast of Sumatra, the southern of Java to Bali, the beaches of Sulawesi, beaches in East Nusa Tenggara (NTT), and the northern coast of Papua. Total reserves for ore are 173,810,612 tons and metal as much as 25,412,652.62 tons. But its utilization was not optimal because PT. Krakatau Steel, and PT. Krakatau Posco has produced steel plates only 24,000 to 36,000 tons per year. While the need for steel plates for the shipping industry each year requires 900,000 tons per year. With the need for raw material for steel plates in the form of iron sponges with Fe 60%, PT. Krakatau Steel is still imported from abroad. The proof is PT. Krakatau Steel before and during the year 2000 still imported Iron Ore Pellets from the countries of Sweden, Chile and Brazil for 3,500,000 tons per year. This condition is the cause of the national steel industry unable to compete with the foreign steel industry because imported raw materials are subject to import duties. This is an opportunity to build a steel raw material company because all this time the steel raw material industry in Indonesia has only two companies. This condition encourages the manufacture of iron sponges, with the process of making iron sponges with technology adapted to installed production capacity. This study analysed the manufacture of iron sponges using Cipatujah iron sand, as raw material for the manufacture of iron sponges, with the results obtained in the form of iron sponges with the highest levels of Fe 60.44%. This can be used for the purposes of raw materials for steel making PT. Krakatau Steel (PT. KS), because so far PT. KS claims that Fe <60% local sponge iron products. This can encourage the independence of steel raw materials, which impacts on the independence of the defence industry. But the government must also protect and prioritize steel raw materials for national production for national steel production. With the national government steel industry, the consortium of vendors supplying raw material (iron sponge) to maintain the quality and supply of continuous sponge iron.