

## **ABSTRAK**

Tujuan penelitian ini adalah untuk mengetahui pengaruh kadar air pada pasir cetak terhadap hasil coran klem pipa, cacat coran dengan metode dye penetran, dan faktor yang memengaruhi hasil coran. Penelitian dilaksanakan di CV. Sudirman Batur Ceper Klaten Jawa Tengah. Pengujian kadar air dilakukan di Laboratorium Politeknik Manufaktur, Ceper, Klaten. Metode penelitian yang digunakan dalam penelitian ini adalah dye penetran test. Variabel bebas dalam penelitian ini adalah variasi kadar air 3%, 4,5% dan 6% pada pasir cetak.

Hasil penelitian ini adalah campuran air 3% mempunyai cacat yang sedikit dan permukaan benda coran tidak banyak mempunyai pori-pori. Pasir cetak yang menempel pada benda coran tidak banyak. Kadar air 4,5% dan 6% mempunyai banyak cacat terlihat dari warna cetakan yang banyak bercak merah dan permukaan kasar. Kadar air dan kadar pasir harus seimbang supaya mendapatkan hasil yang sempurna.

**Kata kunci:** kadar air, kadar pasir, dye penetran, pasir cetak, cacat

## **ABSTRACT**

*The purpose of this study was to identify the effects of water content on sand mold on the results of pipe clamp castings, casting defects by dye penetrant method, and factors that affect cast yield. The study was conducted at CV. Sudirman Batur Ceper Klaten, Central Java. Moisture content testing was conducted at the Manufacturing Polytechnic Laboratory, Ceper, Klaten. The research method used in this study was the dye penetration test. The independent variable in this study was the variation of water content of 3%, 4,5% and 6% in printed sand.*

*The results of this study were mixture of 3% water had few defects and the surface of the castings did not have many pores. There is not much casting sand attached to the castings. Moisture content of 4,5% and 6% had many visible defects from the color of the print with many red spots and rough surface. Water content and sand content must be balanced to get perfect results.*

**Keywords:** *air content, sand content, dye penetrant method, casting sand, defect*