



A Piezo Sensor based Smart-Die Structure

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Summary: A piezoelectric thin film sensor that monitor the onset of failure during die casting operations

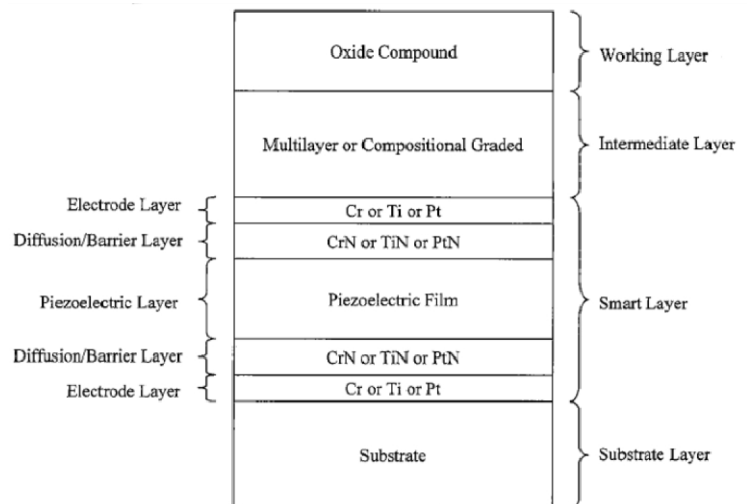
Description: Die-casting is an important metallurgical process that produces geometrically complex metallic parts at high production rates. Due to the severe mechanical and thermal cyclic loading, die failure is a significant issue in die-casting. This invention provides a method for embedding a failure predicting mechanism within the working surface of die casting dies for molten metals. This is done using a piezoelectric thin film sensor that can be use with any coating system for the die. The sensor would detect the onset of failure in the protective layer by the sudden increase in stress level, which always accompanies such failure. The sensor can then facilitate precautionary measure to be adopted.

Main Advantages of this Invention

- Senses failure before traditional methods
- Can be used with any coating system
- Allows for unmanned monitoring of machining systems in production lines

Potential Areas of Application

- Manufacturing
- Steel Industry
- Die cast and coating companies



ID number: 8001

Intellectual Property Status: US 8,833,174

Opportunity: We are seeking an exclusive or non-exclusive licensee for marketing, manufacturing, and sale of this technology.

For more information contact:

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