

Comparing the Durability of Saudi Silica Sands for Use in Foundry Processing

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Abstract : This paper was developed to investigate two types of sands from the Kingdom of Saudi Arabia (KSA) for potential use in the global metal casting industry. Four types of sands were selected for study, two of the sand systems investigated are natural sands from the KSA. The third sand sample is a heat processed synthetic sand and the last sample is commercially available US silica sand that is used as a control in the study. The purpose of this study is to define the durability of the four sand systems selected for foundry usage. Additionally, chemical analysis of the sand systems is presented before and after elevated temperature exposure. Results show that Saudi silica sands are durable and can be used in foundry processing.

Keywords : alternative molding media, foundry sand, reclamation, silica sand, specialty sand

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