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Composite Metal Pipes: Properties and Applications

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Deadline for manuscript submissions:
closed (31 January 2020)

Message from the Guest Editor

A wide range of activity sectors, from systems for water supply to the aeronautics and space industries, currently used composites.

Composite pipes have many potential advantages over conventional pipes. The excellent mechanical properties, low specific weight, high specific stiffness, good thermal insulation and corrosion resistance form the basis of the increasing volume of applications.

Piping testing involves checking for tightness, durability, mechanical strength to pressure and other external stresses, as well as analysis of adhesion between the layers of the tube. On the other hand, the numerical simulation of pipe strength requires the properties of the constituent materials as well as the characteristics of the bond between the layers of the composite formed by the metal / plastic or metal / ceramic or other pairs.

This Special Issue presents: (i) Types of raw materials, including property enhancement additives such as nanomaterials for composite metal pipes manufacturing; (ii) Technologies for composite metal pipes manufacturing; (iii) Properties of composite metal pipes, including numerical modeling and simulation; and (iv) Applications.

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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Journal Rank: JCR - Q2 (*Metallurgy & Metallurgical Engineering*) / CiteScore - Q1 (*Metals and Alloys*)

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