Stiff Extrusion Agglomeration. Can it compete with Sintering?

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Abstract

The results of the study of the metallurgical properties of the extruded briquettes as well as the results of the industrial use of this technology for production of charge components for Blast furnaces and Submerged EAF allow considering this technology as a new stage in agglomeration for ferrous metallurgy. In application to the blast furnace an important property of the extruded briquettes is their high hot strength, which in the case of ore-coke briquettes is higher than that of sinter. High capacity of stiff extrusion lines and the efficiency of its application for agglomerating of fine materials create the conditions for the withdrawal of such materials from the sinter charge, which leads to higher efficiency of sintering. In case of substitution of 50% of sinter in the blast furnace charge by extruded briquettes coke consumption can be reduced by 15% and gaseous and dust emissions of sinter production - by 50%. Recent findings also show that extrusion is best technology for sintering seeds making.

Keywords: stiff extrusion agglomeration; extruded briquettes; sinter; blast furnace; coke rate; hot strength.

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