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## Assessment of Quality of Steel Reinforcing Bars Used in Lagos, Nigeria

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**Abstract** The process of designing a building structure starts with the selection of materials based on their properties and the type of stresses to be supported. For the design of reinforced concrete structure, which is one of the most built structures around the world, the choice will fall on concrete and steel reinforcing bars. The quality of concrete and steel reinforcement bars chosen must have adequate strength to guarantee a ductile behavior expected of reinforced concrete structure, so that the structure will be safe and functional to fulfil the purpose for which it is built. But this is not often the case in Nigeria, where the collapse of reinforced concrete structures have been very frequent. Possible causes of the failures are many including the quality of steel and concrete adopted. This research studies the strength of steel reinforcing bars used in 10 Local Government Areas of Lagos State, Nigeria. Samples of 10mm, 12mm, 16mm, 20mm and 25mm diameter bars were collected from building sites and tested in the State Laboratory. Results obtained show that an average of 70% of the 1325 samples considered met the BS8110 code specifications.

**Keywords** Concrete, Steel Reinforcing Bars, Reinforced Concrete, Building Collapse, Tensile Strength.