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Tutte conjectured that every 4-edge-connected graph admits a nowhere-zero Z_3 -flow and Jaeger et al. [Group connectivity of graphs—a nonhomogeneous analogue of nowhere-zero flow properties, J. Combin. Theory Ser. B 56 (1992) 165-182] further conjectured that every 5-edge-connected graph is Z_3 -connected. These two conjectures are in general open and few results are known so far. A weaker version of Tutte's conjecture states that every 4-edge-connected graph with each edge contained in a circuit of length at most 3 admits a nowhere-zero Z_3 -flow. Devos proposed a stronger version problem by asking if every such graph is Z_3 -connected. In this paper, we first answer this later question in negative and get an infinite family of such graphs which are not Z_3 -connected. Moreover, motivated by these graphs, we prove that every 6-edge-connected graph whose edge set is an edge disjoint union of circuits of length at most 3 is Z_3 -connected. It is a partial result to Jaeger's Z_3 -connectivity conjecture. (Received September 08, 2015)