

Composite Loop Chain Designed for Extended Life in Conveyor Sludge Collectors



A chain for conveyor sludge collectors utilizes composite chain sidebars, rollers, sleeves, bushings and chain pins that replace conventional materials. The chain pins, manufactured by Glasforms, Inc., are molded to tight dimensional tolerances and cut to pin length. The pultruded pins provide exceptional interlaminar shear strength, corrosion resistance and low water absorption. The pins went through exhaustive prequalification fatigue testing under simulated wet tank operating conditions. The chain pins, fitted with a polymeric sleeve, rotate in a polymeric bushing which reduces wear. Two piece polymeric flight brackets are mounted on these chain pins. Loop configuration sidebars, made of filament wound composite construction, minimize stress concentrations, while the design maintains pin orientation.

This innovative design, tested by finite element analysis, results in a chain that is equal in working load to the best cast iron chains, while offering superior corrosion resistance. The bushings, rollers and pins are easily replaced since they are individual components and a 50% reduction in installation time is the result of a 75% decrease in weight versus a cast iron chain. The performance advantages of composites have proven successful for this application since 1986 with thousands of installations in waste water treatment systems worldwide.

Materials: 70% pultruded E-glass in proprietary resin formulation

Properties: Corrosion resistant, lightweight, high strength and ease of installation

Size: .983" diameter x 4" and 6" lengths

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