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(54) Title: FIRE RESISTANT PIPE

(57) Abstract

Fire resistant pipes and pipe fittings include a structural pipe wall (12) of helically wound reinforcing fiber (14) that is bonded together with a thermoset polymer resin (16). First embodiment pipes include a fire resistant layer (18) in the form of a resin rich carrier that is applied to the surface of the structural pipe wall (12). The resin used to impregnate the carrier is selected from the same group of resins used to form the structural pipe wall. Second embodiment pipes include a number of energy absorbing material layers (26) disposed around the structural pipe wall, and are formed from a material capable of absorbing heat energy from a surrounding outside layer to produce a thermally insulating gas therebetween. A number of fiber-reinforced resin layers are disposed around the structural pipe wall that is formed from an impact absorbing configuration of alternating release layers and fiber-reinforced resin layers. Fire resistant pipe embodiments of this invention are configured to protect the structural wall from heat induced failure produced by exposing the outermost pipe wall to a 1,000 °C flame for at least five minutes in a dry condition.

