



EXTREME-DUTY CS720SS/730S

(US PATENTS 7,237,375 B2 and 7,343,730 B2)

(CANADIAN PATENT 2,519,653)

Chain materials and design shall meet or exceed ASME B29.21M-1996 standards for 700 Class Cast Chains and Attachments for Water and Sewage Treatment Plants. Collector chain links and chain pins shall be CS720S series having 6.00" pitch links with an average weight of 2.9 to 3 pounds per link, and 5.8 to 6 pounds per foot. Chains shall be cast from aerospace-grade precipitation hardening martensitic investment cast 15-5pH and 17-4pH stainless steel alloys, heat-treated and through hardened to an average of 40 to 44 Rc, cleaned and passivated per ASTM A380-06 and ASTM A967-05e1. Fabricated and/or welded chain designs are not acceptable. Chain links and pins manufactured from 400 series stainless steel are not acceptable. Chains links and pins shall be smooth throughout, and be free from casting burrs, voids and material defects. All chain links shall maintain a +/- .010" uniform dimensional tolerance between all individual links and link components. Chains shall be suitable for operating on either cast, fabricated or high-grade non-metallic (polymeric) sprockets.

The chains shall have minimum 1.50" diameter barrels, and minimum .250" thick by 1.50" high sidebars, with a .375" thick by .375" high reinforcing rib running laterally along the chain sidebars from the pin boss (open end of the link) to the chain barrel (closed end of the link). Chain sidebars at the pin boss (open end of the link) shall have a minimum .625" thick by 1.50" high sidebar dimension. The chain shall have a minimum certified ultimate strength of 78,000 pounds, and a maximum working load of 7,800 pounds. The chain shall be assembled with 3/4" diameter investment cast stainless steel chain pins, heat-treated and through-hardened to 40 to 45 Rc.

Chain pins shall be designed to be fixed (non-rotating), or to rotate both within the chain barrel and chain pin boss (open end) of the link depending on the application. Chain pins that are press fit into the chain sidebars, or that use T-heads, rivets, or other non-rotational devices to lock the chain pin in place are not acceptable. Chain pins shall be designed to be inserted into the link sidebars without applying mechanical force, and from either side of the chain link. Chain pins and link designs that require the application of mechanical force for assembly, and/or that only allow the chain pin to be inserted into the link sidebars from one side or direction are not acceptable.

All links shall be the P&C design with removable pins and removable cotters; riveted chain pin designs are not acceptable. Cotter pins and washers for the chain pins shall be 300 series stainless steel. Chain pin cotters shall be T-head (for Bar Screens and Grit Collectors) or conventional type (for C&S Collectors), minimum 1/4" inch diameter and 1" long. Chains will be assembled by the manufacturer and shipped in 9.5 foot (19-link) sections, unless otherwise specified. Attachment links will be unitized, one-piece stainless steel investment castings. Attachments links that use bolted, press-fit, fabricated or welded attachment extensions on a standard chain link are not acceptable. Attachment links are available in standard A2, A42, AD474, AM116, F2, F26, F28, K2 and K10 designs. Other standard and custom attachment links are available upon request. Attachment links and pins shall be shipped loose.

Chain materials and design concepts shall have a minimum of 5 years demonstrated experience successfully operating in submerged water and/or wastewater treatment applications within the continental United States. All chain components shall be manufactured and assembled in the U.S.A. Chains shall be DuraMax 720S/730S-15-5pH - 17-4pH stainless steel as manufactured by Environmental Resources, Inc., Pewaukee, WI.

DuraMax Chains shall be free of defects in materials and workmanship FOR A PRORATED PERIOD OF TEN (10) YEARS from the date of final inspection for all applications that are designed, installed, inspected, operated and maintained according to ERx, Inc. and general industry standards. DuraMax Chains shall be properly installed and operated on compatible, high-grade DuraMax polymeric sprockets (70-75 Shore D polyurethane, Nylon-6 and UHMW-PE), stainless steel, or other materials that will provide a uniform and balanced wear with the chains, and which will not suffer from spalling, galling, corrosion-erosion, or cold-flow of the sprocket materials during the warranty period.

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