



CEMA Conveyor Chain and Sprocket Section
ENGINEERING CLASS AND ROLLER CHAINS – There is a difference
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For most of us, our initial recognition of chain came with our first bicycle. Here we witnessed the application of a chain and sprocket to transfer power from our legs through a simple mechanism to move the bicycle forward. This basic function of using chain to transfer power from one energy source to another exists in many applications.

Although roller and engineering class chains carry the same generic name, there is a vast difference in design, construction, and applications between these two products. Roller Chains are primarily used for the transmission of power, while engineering class chains are most often used for the movement of materials. There are some exceptions but the rule to remember is: Roller Chains for Power Transmission and Engineering Class Chains for Material Handling. Each of these product lines have precise design features to achieve these functions efficiently and at low cost.

Roller chains are highly standardized and use a universal code for the identification of the product. This code is based upon the use of the number 80 equals a 1-inch pitch. Following this simple coding system, a number 80RC means the chain has a one-inch pitch. By a simple process, we can identify the pitch of a roller chain by its relationship to the number 80. For example, a 3/4-inch pitch would become a number 60RC because 60 is 3/4 of 80. A half-inch pitch becomes a number 40RC, etc. Thus, each chain size can be identified by this simple numbering system regardless of the manufacturer or country of origin.

There is no standard numbering system for engineering class chains. Instead, each manufacturer uses his own system to identify his product. This lack of a universal numbering system was a deliberate attempt by some manufacturers to control the aftermarket of replacement products where their chain was on the original installation. There has been agreement on pitch and dimensional sizes but a customer who wants to compare value must refer to a catalog or interchange list. Even then, the question of manufacturing controls, steels used, heat treatment processes and dimensional controls is left unanswered.

Presented as a service to the Conveyor Industry by the CEMA Conveyor Chain Section.
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