

CMAA Crane Classification - A brief overview.

As to the types of cranes covered under CMAA Specification No. 70 (Top Running Bridge and Gantry Type Multiple Girder Electric Overhead Traveling Cranes), there are six (6) different classifications of cranes, each dependent on duty cycle. Within the CMAA Specification is a numerical method for determining exact crane class based on the expected load spectrum. Aside from this method, the different crane classifications, as generally described by CMAA, are as follows:



This class "A" generating station crane is rarely used.

Class A (Standby or Infrequent Service):

This service class covers cranes where precise handling of equipment at slow speeds with long idle periods between lifts are required. Capacity loads may be handled for initial installation of equipment and for infrequent maintenance. Typical examples are cranes used in powerhouses, public utilities, turbine rooms, motor rooms, and transformer stations. This is the lightest crane as far as duty cycle is concerned.



This class "B" crane is used in a maintenance shop.

Class B (Light Service):

This service class covers cranes where service requirements are light and the speed is slow. Loads may vary from no load to occasional full rated loads with 2 to 5 lifts per hour, averaging 10 feet per lift. Typical examples are cranes in repair shops, light assembly operations, service buildings, light warehousing, etc.



This class "C" crane lifts bundles of steel rod onto a feed rack for processing.

Class C (Moderate Service):

This service covers cranes whose service requirements are deemed moderate, handling loads which average 50 percent of the rated capacity with 5 to 10 lifts per hour, averaging 15 feet, with not over 50 percent of the lifts at rated capacity. Typical examples are cranes used in machine shops, papermill machine rooms, etc.



This class "D" crane will handle frequent shipments of steel plate at a steel warehouse.

Class D (Heavy Service):

In this type of service, loads approaching 50 percent of the rated capacity will be handled constantly during the work period. High speeds are desirable for this type of service with 10 to 20 lifts per hour averaging 15 feet, with not over 65 percent of the lifts at rated capacity. Typical examples are cranes used in heavy machine shops, foundries, fabricating plants, steel warehouses, container yards, lumber mills, etc., and standard duty bucket and magnet operations where heavy duty production is required.



This class “E” crane unloads master coils from a truck or train. The coils are always 35 tons and must be unloaded in a timely fashion.

Class E (Severe Service):

This type of service requires a crane capable of handling loads approaching the rated capacity throughout its life with 20 or more lifts per hour at or near the rated capacity. Typical examples are magnet, bucket, magnet/bucket combination cranes for scrap yards, cement mills, lumber mills, fertilizer plants, container handling, etc.



This class “F” crane operates in a steel mill with ladles of molten steel. For perspective, the crane is about 100’ span, and the ladle and molten steel combined weight 210 tons.

Class F (Continuous Severe Service):

In this type of service, the crane must be capable of handling loads approaching rated capacity continuously under severe service conditions throughout its life. Typical examples are custom designed specialty cranes essential to performing the critical work tasks affecting the total production facility, providing the highest reliability with special attention to ease of maintenance features.