



Buying an Overhead Crane

At ProMat 2009 in Chicago, the Crane Manufacturers Association of America (CMAA) sponsored an educational session called How to Buy an Overhead Crane with Confidence. Peter A Kerrick, vice president, Bushman AvonTec, presented it.

Whether the economy is good or bad, it will always be a “buyer beware” economy. The CMAA members want to educate prospective buyers of overhead cranes so that they ultimately buy cranes that meet or exceed their expectations.

The ProMat session focused on these ‘top 10 tips’ for buying cranes:

CMAA service classifications

Write down what you expect the new crane to do. Points to consider will be the maximum lifting capacity; the weight of the average load that the crane will need to lift; how many loads you expect that will need to be lifted per hour, per shift, shifts per day, days per week; what are the typical travel distances and how fast must the crane move those distances.

Use the Buyer’s Guide as a road map to answer these basic questions and to get an understanding of crane service classifications before contacting crane suppliers. The key point is that crane lifting capacity is completely independent from its service classification.



Types of cranes

The types of cranes discussed include jib cranes, work station cranes, under running and top running, single and double girder cranes, and gantry cranes. Few crane

manufacturers specialize in every type of crane. It is advisable first to become familiar with the various types of cranes to determine what type(s) will fit the application. Once the type of crane is established, a field of bidders who specialize in that style of crane can be invited to bid.

Types of hoists

The hoist type and brand will likely be dictated or suggested by the crane supplier. However, understanding the basic choices among manual, electric or air powered hoists is recommended.

Structural components

Cranes are made from welded steel plates and sections. The more steel that's used, the heavier and more expensive the crane will be. By careful consideration of the service classification, you can control some of the structural design elements that affect the crane weight and cost. Heavier duty cranes will need regular maintenance. Don't overlook the benefits of adding service walkways to the crane that will give maintenance personnel a safer work environment to perform more thorough inspections and reduce maintenance downtime.



Mechanical components

Crane service classification can affect everything from the crane hook to the bridge bumpers and all components in between. Take time to discuss key components with the crane supplier to be sure they are suitable for your application and budget.

Electrical components

A bad motor makes a crane useless. Be comfortable with the type and rating of motors to be sure they are properly applied to your crane. Generally, a totally enclosed frame is desired. The larger the motor frame, the more heat it can dissipate. A bad brake makes a crane dangerous. Be sure that the crane supplier is properly sizing the motor brakes for the service class and application.

Motor controls

The latest variable frequency drive technology allows excellent crane positioning and speed control. However, some crane operating environments are not friendly to solid state electronic control systems. Understand the differences between available control systems and take into account possible life-cycle costs to maintain them.

Operator controls

This is a very basic decision that affects the crane design. Will it be operated from an operator's cab on the crane, from a radio remote control system, from a pushbutton pendant station, or be semi or fully automated?

Special process cranes

Some cranes are so specialized that there are a limited number of qualified crane suppliers. Examples include 500 ton hot metal ladle cranes or nuclear power plant reactor room cranes. Don't waste time with unqualified bidders. Make sure all of your bidders can demonstrate significant experience and successful installations that are similar to your application.

Below-the-hook attachments

Remember that the crane rarely "touches" your load. It only moves it. Overall productivity can be greatly impacted by how the load is physically connected to the crane. The crane supplier can usually recommend possible lifting attachments. However, companies that specialize in making below-the-hook attachments might offer valuable insight early on in the buying process.

The process of buying a crane can be a lot of work. However, you and your company will greatly benefit if you take an active role as an educated buyer. To make the job easier, use the free resources available from CMAA.

