

INSTRUCTIONS FOR USING THE WORKLOAD LIMIT TABLE FOR PLATES AND ROUNDS ON PAGE 6

1. Select your MPI Lifting Magnet model.
2. Select the surface finish and condition (clean and smooth, rusty or hot, irregular or rough) that corresponds to you plate or round bar. If your surface roughness exceeds the maximum, do not make the lift.

Plates:

- a. Select the plate thickness from the table. If your plate thickness is not listed, select the next lower value from the table. **Never lift plates thinner than the minimum listed in the table.**
- b. Check that the plate you are attempting to lift is shorter than the maximum length (L) and narrower than the maximum width (W) listed in the table under the heading "Max. dimensions" for the thickness of the selected plate.

Round bars:

- a. Be sure the diameter of the bar is between the minimum and maximum diameter as listed in the table. **Never lift bars outside this range.**
- b. Be sure that the bar is less than the maximum length (L) max listed in the table.

3. Determine the maximum safe lifting capacity of the magnet based on your material thickness.

Plates:

- a. Select the maximum safe lifting value from the table for the minimum length (L) and minimum width (W) from one of the two choices. **Do not make the lift if your plate is less than these minimum values.**

Round bars:

- a. The maximum safe lifting value is shown in the table
4. If you are not lifting AISI 1020 steel, determine the reduction in safe lifting capacity by the percentage factor for your material from the Material Reduction Factor Table shown below. For example, if you are lifting cast iron, multiply the maximum safe lifting capacity determined in Step 3 above for steel by 45% to get the maximum safe lifting capacity for your lift of cast iron.
5. Finally, determine the weight of the plate or round bar you are attempting to lift to be sure it is less than the maximum safe lifting capacity determined in Step 4. The weight can be calculated using the density of 0.283 lbs per cubic inch for steel or by use of a commonly available on-line weight calculator.

MATERIAL REDUCTION FACTOR TABLE (STEP 4)

The Workload Limit Table for Conditions and Finishes on Page 6 is for AISI 1020 steel. Other materials are less magnetic. Any increase in alloy content will reduce the safe lifting capacity of the magnet. Use these percentage factors for materials other than AISI 1020 steel:

Material	Percentage Factor
Cast Steel	90%
3% Silicon Steel	80%
AISI 1095 Steel	70%
416 Stainless Steel	50%
Cast Iron (non-chilled)	45%
Pure Nickel	10%

Never attempt to lift non-magnetic metals like 304/316 stainless, aluminum, copper, lead, tin, titanium and zinc, and alloys such as brass and bronze.