

Minimum Thickness for Batch Cookers

One question many customers ask Alloy is “What thickness can I run my batch cooker to and still be within ASME guidelines?”

The answer is that each batch cooker’s minimum thickness must be calculated based on the information contained in the “U-1 Manufacturer’s Data Report for Pressure Vessels”. If you send Alloy copies of your ASME paperwork we will calculate the minimum thickness for you at no cost.

Why are minimum thicknesses different?

Several customers have questioned why the minimum thicknesses can be different from one vessel to the next even if those cookers are all the same model.

The reason for the difference is that all major batch cooker manufacturers (Alloy, Anco, Dupps) have been manufacturing cookers for decades and the specifications can change from one vessel to the next, even though they are the same model. Below are some specific examples:

Temperature Rating – These vary typically 350° F, 450° F, or 650° F

Shell Length – Often varies by 1”–3”

Material of Steel – Either SA516 Grade 70 or A285 Grade C

Pressure Ratings – Some are 90 PSI, others are 100 PSI

Corrosion Allowance – Often varies

All of these engineering parameters have a bearing on **your** minimum thickness. So please call Alloy Hardfacing & Engineering for an accurate assessment of your vessel today.

The following chart gives an approximate range of shell thicknesses **without** reinforcing rings:

Cooker Style	Approximate Minimum Thickness (in inches)
5’ x 12’	.500 to .571
5’ x 13’-4” or 5’ x 14’	.512 to .582
5’ x 16’	.560 to .625

Note: If cookers were rebuilt by Alloy, they may have reinforcing rings which allow the cooker to run at a lower thickness.