

CHARGE CALCULATION FOR CAST IRONS

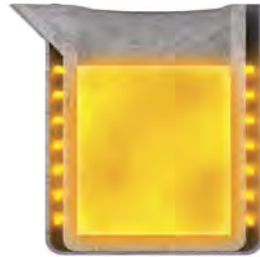
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Learning made Simple, Visual, and Interactive

Charge Calculation for Cast Irons provides learners with the knowledge to more fully understand the materials, processes, and calculation steps involved in cast iron melting. Using THORS' highly visual and interactive Lightning Learning format, this course succinctly summarizes a variety of steps in charge calculation procedures that are sometimes difficult to grasp. Charge material, melting furnaces, and chemistry analysis methods are just a few of the topics covered in this course. In addition, an example of a charge calculation is presented in a step-by-step manner to facilitate learning and comprehension.

Credit Hours **0.75**

Total Melt Size: 20,000 (lbs or kg)									
Material	Target %	Analysis %	Difference %	Correction (lbs or kg)	Material %	Recovery %	Amount of Addition (lbs or kg)	Correction %	Corrected (lbs or kg)
C	3.4	3.35	0.05	10	Graphite 95	90	10.75	50	5.4
Si	2	1.9	0.1	20	FeSi 50	48	41.7	50	20.9
Mn	0.5	0.48	0.02	4	FeMn 66	64	6.25	50	3.1
Cu	0.5	0.45	0.05	10	Copper 100	98	10.2	50	5.1
Mo	0.05	0.04	0.01	2	FeMo 63	62	3.23	50	1.6
Cr	0.2	0.19	0.01	2	FeCr 60	58	3.45	50	1.7



Learning Objectives

- Recall the primary charge materials used for iron castings.
- Recognize the factors that contribute to pick-ups and losses in cast iron.
- Be able to differentiate the various methods of taking chemistry samples.

Table of Contents

I. What is Cast Iron?

II. Charge Material

- Charge Makeup
- Pig Iron
- Steel Scrap
- Foundry Returns
- Alloying Elements
- Carbon Raisers
- Cumulative Learning

III. Calculation Factors

- Melting Furnaces
- Cold Melting
- Heel Melting
- Chemistry Analysis
- Cumulative Learning

