
	SARA SAE ENGINEERING SPECIFICATION	
	Section: SES 26 – 785	
	Issue: “A”	Rev No.: “0”
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MATERIAL SPECIFICATION FOR ASTM A395
(FERRITE DUCTILE IRON) PRESSURE RATING CASTING
USED AT ELEVATED TEMPERTAURE.

Rev	Reason of Change	Date	Made By	Reviewed By	Approved By	Status
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MATERIAL SPECIFICATION FOR ASTM A395
(FERRITE DUCTILE IRON) PRESSURE RATING CASTING USED
AT ELEVATED TEMPERTAURE.

1.0 SCOPE

- 1.1 – This specification covers the castings prepared in ASTM A395.
1.2 – Alloy ASTM A395 belongs to ductile iron group.


2.0 REQUIREMENTS

2.1 Chemical Composition – Chemical composition limits are listed below. The manufacturer shall carry out an analysis of each heat of the alloy preferably from a ladle sample taken at or near the time of pouring. The listed elements shall be reported in weight percent. Reporting of residual elements is not required, but total residuals must not exceed 1%.

Elements	Composition Range (%)
Carbon (C)	3.00 min.
Silicon (Si)	2.75 max.
Phosphorus (P)	0.08% max.
Iron (Fe)	Balance

The manufacturer shall provide a TC from an NABL certified lab for the same.



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2.2 Mechanical Properties – Mechanical properties required are listed below. The manufacturer shall carry out a test for each heat and the mechanical properties should be listed.

Properties	Range
Tensile Strength, PSI (MPa)	60,000 (414) min.
Yield Strength, PSI (MPa)	40,000 (276) min.
Elongation in 2”	18% min
Hardness, Brinell	143-187
Impact Strength, Charpy unnotched (joules)	81.5-156

The manufacturer shall provide a TC from an NABL certified lab for the same.

NOTE:

- 1) The castings shall be free from cracks, shrinkage, blowholes, porosity or other defects.
- 2) The castings shall be in shot blast and in cast condition.

