

Rev	Date	ECN	Issue	Prepared by	Check/Approved
B	03.01.08	257	Revised/Re-issued	T.S.	J.S.
A	19.12.03	96	Revised/Re-issued	N.R.	J.S.

Product Form	Standard	Grade	Acceptable Class
Forgings	ASTM A105	N	-

Scope	This specification outlines the modifications and additional requirements to the relevant ASTM Specifications for the supply of raw material to manufacture Vector International products.								
Other Applicable Specifications	ASTM A370 (Latest Issue)								
Heat Treatment	Normalise								
Chemical Analysis % (Heat)		Min	Max		Min	Max		Min	Max
	C	-	0.25	S	-	0.040	Cu	-	0.40
	Si	0.10	0.35	Ni Cr	-	0.40	Nb	-	0.02
	Mn	0.6	1.05	Mo	-	0.30	V	-	0.08
	P	-	0.035		-	0.12			
	<i>Note: For each reduction of 0.01% below the specified carbon maximum (0.35%), an increase of 0.06% Manganese above the specified maximum (1.05%) will be permitted up to a maximum of 1.35%. Cu+ Ni+ Cr+ Mo = 1.00%.max Cr+ Mo = 0.32%.max</i>								
Mechanical Properties					Min		Max		
	Tensile(R_m):				70000psi (483MPa)		-		
Yield (R_{p0.2}):				36000psi (249MPa)		-			
Elongation (A %):				22%		-			
R. of A (Z %):				30%		-			
Hardness:				137HB		187HB			
Surface Finish and Quality	Forgings to be of sufficient quality for MPI check. MPI on finished machined parts to be undertaken by Vector International Ltd. Forgings to be supplied free of defects (Slag inclusions, scale, laps, cracks).								
Repair of Defects	Weld repair is not permitted.								

.VECTOR

MATERIAL SPECIFICATION

H102 Rev B – ASTM A105 N

Marking	Forgings shall be marked with Heat Number, Material Grade and Vector Specification.
Certification	Certification to be in accordance with EN10204-3.1: Chemical Analysis, Mechanical Analysis, Heat Treatment Report / Graphs, Mill certificate (Wet Stamped).
Notes	<ol style="list-style-type: none">1. Refer to PO for supplemental details.2. Any deviation from this specification must be formally raised as a concession request prior to delivery. Certification must include concession documentation.