



Test Certificate

12400 Highway 43 North, Axis, Alabama 36505, US

WARNING: This product can expose you to chemicals including nickel and nickel compounds, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Form TC1: Revision 5: Date 22 Aug 2022

Customer P.O.No.:HOU-19378 Mill Order No. 41-765669-08 Shipping Manifest: AR419055

Product Description: ASTM A572-50/M345(21)/A709-50/M345(24) Ship Date: 15 Apr 25 Cert No: 081223531

TYPE 2, .010% MAX S Cert Date: 15 Apr 25 (Page 1 of 1)

LCVN 20 FT.LBS @ -22F/A673-H

AASHTO M270(23) 50/345

Size: 1.000 X 96.00 X 240.0 (IN)

Heat Id	Piece Id	Tested Thickness	Tst Loc	YS (KSI)	UTS (KSI)	%RA	Elong % 2in 8in	Tst Dir	Hardness	Abs. Energy(FTLB)			Tst Tmp	Tst Dir	Tst Siz (mm)	BDWTT Tmp %Shr
										1	2	3				
E5C224	C23	0.999 (DISCRT)	L 60	79	39			T		118	101	110	110			
E5C224	C26	0.999 (DISCRT)	L							97	90	100	96			
E5C224	C27	0.999 (DISCRT)	L 57	77	43			T								
E5C224	C28	1.246 (DISCRT)	L 59	77	43			T								

Heat **Chemical Analysis**

C Mn P S Si Total Al Sol Al Cu Ni Cr Mo Cb V Ti NiW

E5C224 .16 1.05 .010 .001 .20 .026 .025 .28 .13 .09 .03 .003 .034 .002 .40

ORGN USA

KILLED STEEL
 MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT.
 KILLED STEEL, PRODUCED TO A FINE GRAIN PRACTICE
 CEV (TIW) = C + MN/6 + (CR+MO+V)/5 + (NI+CU)/15
 MTR EN 10204:2004 INSPECTION CERTIFICATE 3.1 COMPLIANT
 100% MELTED, Poured, AND ROLLED IN THE USA
 NO WELD REPAIR HAS BEEN PERFORMED ON THIS MATERIAL.
 PRODUCTS SHIPPED:
 E5C224 C26 PCS: 8, LBS: 52272 E5C224 C27 PCS: 4, LBS: 26136

WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION

Jason Thomas
 Director Technical Services

(P) Cust Part #: