

**QUALITY CERTIFICATE**
**Number:** 62936  
**Invoice:** E401481  
**Date:** 15/06/2004  
**ACESITA Order:** 9599085

**Customer:**  
 DUFERCO S.A  
 VIA BAGUTTI 9  
 CH-6900 - LUGANO  
 P.O.NR.: ORDEM 2

Part Number: ASTM A 36/A 36M

**Steel grade:** ACE P016N <sup>316</sup> <sub>48</sub> <sup>Roll</sup> **Finish:** HOT ROLLED **Product:** COIL  
**Dimensions:** 4,76 mm x 1220 mm  
**Marks:**
**Chemical composition**

Heat nr.	C %	Mn %	Si %	P %	S %	Cr %	Ni %	Mo %	Al %						DI mm
402230G	0,162	0,70	0,140	0,013	0,003	0,10	0,02	0,009	0,0425						15,13
402679E	0,165	0,72	0,090	0,012	0,001	0,08	0,01	0,006	0,0564						14,10
402680C	0,153	0,73	0,080	0,013	0,003	0,11	0,04	0,008	0,0505						14,93

**Results**

Test/Variable	Unit	402230G03		402679E01		402679E02		402680C04		402680C09			
		H	T	H	T	H	T	H	T	H	T	H	T
Tensile Strength	MPA		470,00		498,00		498,00		470,00		470,00		
Yield Strength 0.2 %	MPA		320,00		357,00		357,00		320,00		320,00		
Elongation 2"	%		36,00		30,00		30,00		36,00		36,00		
Grain Size			08/08		08/08		08/08		08/08		08/08		
Hardness	HRB	079	079	081	081	081	081	079	079	079	079		
Structure		FERRITE-PEARLITE		FERRITE-PEARLITE		FERRITE-PEARLITE		FERRITE-PEARLITE		FERRITE-PEARLITE			
Crown	mm	-0,011		0,034		0,039		0,039		0,022			
Wedge	mm	0,023		0,043		0,045		0,043		0,037			
Std. Deviation	mm	0,01		0,05		0,04		0,03		0,05			
Width	mm	1229,90		1233,40		1234,30		1238,90		1235,50			
Net Weight	MT	19,310		19,800		19,620		19,610		19,630			
Gross Weight	MT	19,310		19,800		19,620		19,610		19,630			

**Heat & Lot Identification:**

Ok

**Surface quality / dimensions:**

Ok

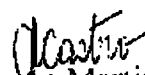
**Remarks:** ASTM A 36/A 36M.

Free from mercury contamination.

Certify that the results above are correct and in acc. with the specifications or accepted concession.

Quality management system certified ABS QE no. 30071 acc to AD2000 W2/W10; ISO 9001:2000.

Environmental management system certified ABS QE no. 65989 acc to ISO 14001.

  
 Geovane Martins Castro  
 Qualified Inspector  
 ACESITA S.A.