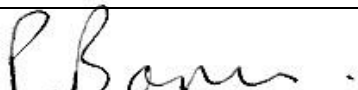


## Laboratory Accreditation Programmes

Schedule to <b>CERTIFICATE OF ACCREDITATION</b>	
Hayes Metal Refineries Ltd	<b>Client No. 471</b>
PO Box 13139, Onehunga, Auckland, 1643 305 Neilson St, Onehunga, Auckland, 1061	
<b>Telephone 09 633-4000</b> <b>Fax 09 636-4004</b>	<b>www.hayesmetals.co.nz</b>
<b>Authorised Representative</b> Mr Nigel Woodger Laboratory Manager	
<b>Programme</b> Chemical Testing Laboratory	
<b>Accreditation Number 44</b>	<b>Initial Accreditation Date 9 November 1976</b>
<b>Conformance Standard</b> NZS ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories	
<b>Testing Services Summary</b>  2.01                      Metals and Alloys	
<b>Key Technical Personnel</b>  Mr Peter Wilcox    2.01 Mr Nigel Woodger    2.01	

Authorised: General Manager		Issue 27      Date: 09/11/15	Page 1 of 2
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Schedule to

**CERTIFICATE OF ACCREDITATION**

Hayes Metal Refineries Ltd  
Chemical Testing Laboratory  
**SCOPE OF ACCREDITATION**

Accreditation Number 44

**2.01 Metals and Alloys**

- (a) **Iron and steel based alloys**
- (b) **Copper and copper based alloys**
- (c) **Aluminium and aluminium based alloys**
- (d) **Tin and tin based alloys**
- (d) **Lead and lead based alloys**
- (e) **Magnesium and magnesium based alloys**
- (f) **Zinc and zinc based alloys**
- (h) **Nickel and nickel based alloys**

Carbon and low-alloy steel constituents and trace elements by optical emission spectroscopy (OES) in accordance with ASTM E415-08

Cast iron constituents and trace elements by optical emission spectroscopy (OES) in accordance with ASTM E 1999-11

Constituent and trace elements by flame atomic absorption spectrometry (FAAS) in accordance with ASTM E663:1991

Constituent and trace elements by optical emission spectrometry (OES) in accordance with AS2883:2000

Copper in copper based alloys by electrogravimetric deposition in accordance with an in-house electrolytic method

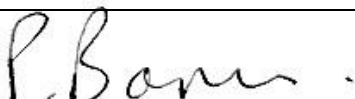
Dezincification resistance testing of copper alloys in accordance with AS2345:2006

Stainless steel constituents and trace elements by optical emission spectroscopy (OES) in accordance with ASTM 1086-08

**References:**

AS Australian Standard  
ASTM American Society for Testing and Materials

Authorised:  
General Manager



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