



VAN DER HORST TECHNOLOGIES PHILS., INC.



HEAD OFFICE

8 Main Drive, First Cavite Industrial Estate, Bo. Langkaan, Dasmariñas, Cavite 4126
Tel No.: (046) 402-0303 to 06, Fax No.: (046) 402-0301, (046) 402-0749
E-mail: john.ferrier@vanderhorst.com / jferrier@vdhtpi.info.com,
ovcasipit@vanderhorst.com.ph / oliver.casipit@vanderhorst.com

CEBU CITY

Room 201, F. UY Building, National Road, Tipolo, Mandaue City
Tel/Fax No.: (032) 346-1451
Email: epjumao-as@vanderhorst.com.ph

GENERAL SANTOS CITY

South City Homes Formerly Johnny Ang Subd. Lagao GSC 9500, Gen. Santos City
Tel No.: 63920-5791-830
Email: haidee.braza@yahoo.com.ph

WEBSITE

www.vanderhorst.com.ph

ENGINEERING SERVICES

- * Industrial Chromium Plating
- * Repair / Rehabilitation of Power and Industrial Plant, Oil Rigs and Ships
- * Heavy Machining Works
- * Mechanical Fabrication
 - Hydraulic / Telescopic Hoist Repairs
- * Crankshaft / Roller Grinding
- * Specialty Welding: GTAW, GMAW, SAW, SMAW, Hot & cold Fusion Welding, (Material Included) Aluminum, Tungsten Nickel, Brass, Bronze, Chrome Moly, Cast Iron, Stainless Steel
- * Dalic Plating
- * On-Site Repairs: Line Boring, Flange Face Machining, Boring of Broken Studs
- * Industrial Plant Installation & Rehabilitation
- * Industrial Process Machinery, Pulpers Agitators, Mixers, Conveyor / Material Handling Equipment
- * Engine Reconditioning
- * Cylinder Head Repair, Replace Valve Seat, Welding of Crack, Refacing
- * Laser Bore Alignment & Shaft Alignment
- * Metco Metal Spray Build Up
- * Metco Powder Spray Build Up (Ceramics)
- * Steel Fabrication



John S. Ferrier
General Manager

Van Der Horst has been operating non-stop since 1975 in the Philippines. During this period the savings to customers and the economy has been huge due to the nature of the repair and fabrication work done by Van Der Horst.

This company profile indicates the many types of machines repaired and the many industries served.

We still have a considerable number of pioneer employees from the late 1970's to early 1980's. This is an indicator of the company's policy of looking after its employees. We also have customers who have loyally given us their repairs from that early time to this day. This indicates the constant quality of Van Der Horst output.

Van Der Horst has held Lloyd Register certificate for chromium plating of machinery for repair and rectification purposes for the past twelve (12) years. We have also obtained through hard work the American Petroleum Equipment Manufacture, API Certificates for 16A , 6A and Specs Q1.

The future looks secure for Van Der Horst and the plan is to move forward and increase our capability and production in Engineering Services.



Mission, Vision and Company Values

Our Vision

To be the leading Engineering Services provider, specializing in chromium plating and equipment reconditioning, in the Philippines and the Asia Pacific.

Our Mission

To satisfy our Customers by continuously maintaining high quality standards of our Engineering products and services. To continuously upgrade our employees, our equipment and our technology, so that Customers received best value. To promote responsible socio-economic and environmentally-friendly practices.

Company Values

Quality
Dynamic
Customer Orientation
Teamwork
Workplace of Choice

Corporate Policy on Quality

Van Der Horst Technologies Philippines, Inc recognizes that Total Customer Satisfaction is the key long-term goal of the Company.

The Company is committed to Quality. With this observance, we will continually upgrade the Human Resources, Plant and Technology, in order to ensure delivery of quality products and services to our Customers.



LOCAL SALES PERSONNEL

For inquiries, please contact our main office on the numbers shown or one of our field sales and engineering staff local to your area:

LUZON

Oliver V. Casipit	-	Mktg. Manager	-	Cavite Main Office	-	(0927) 413 7181
				ovcasipit@vanderhorst.com.ph		
Leopoldo P. Tang	-	Technical Sales Engr.	-	Cavite Province	-	(0917) 819 3632
				lptang@vanderhorst.com.ph		
Potenciano M. De Villa, Jr.-	-	Technical Sales Engr.	-	CALABARZON	-	(0917) 502 6301
				jmdevilla@vanderhorst.com.ph		
Carlin M. Garcia	-	Technical Sales Engr.	-	Tondo, Navotas	-	(0929) 657 3789
				cmgarcia@vanderhorst.com.ph		
Rolyn E. Buenconsejo	-	Technical Sales Engr.	-	Cavite Main Ofc., NCR	-	(0906) 3480227
				robeth1000@yahoo.com		
David Louise Takashi R. Tobari	-	Technical Sales Engr.	-	Cavite Main Ofc., NCR	-	(0927) 7037058
				takashi.tobari@gmail.com		

VISAYAS

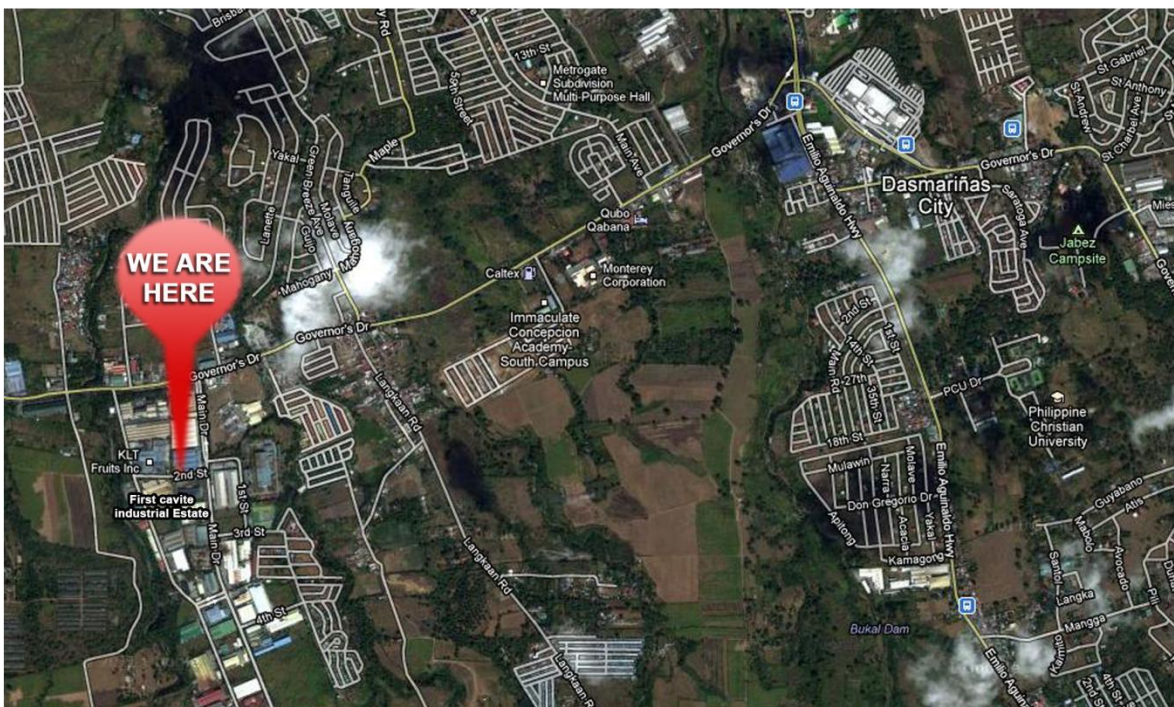
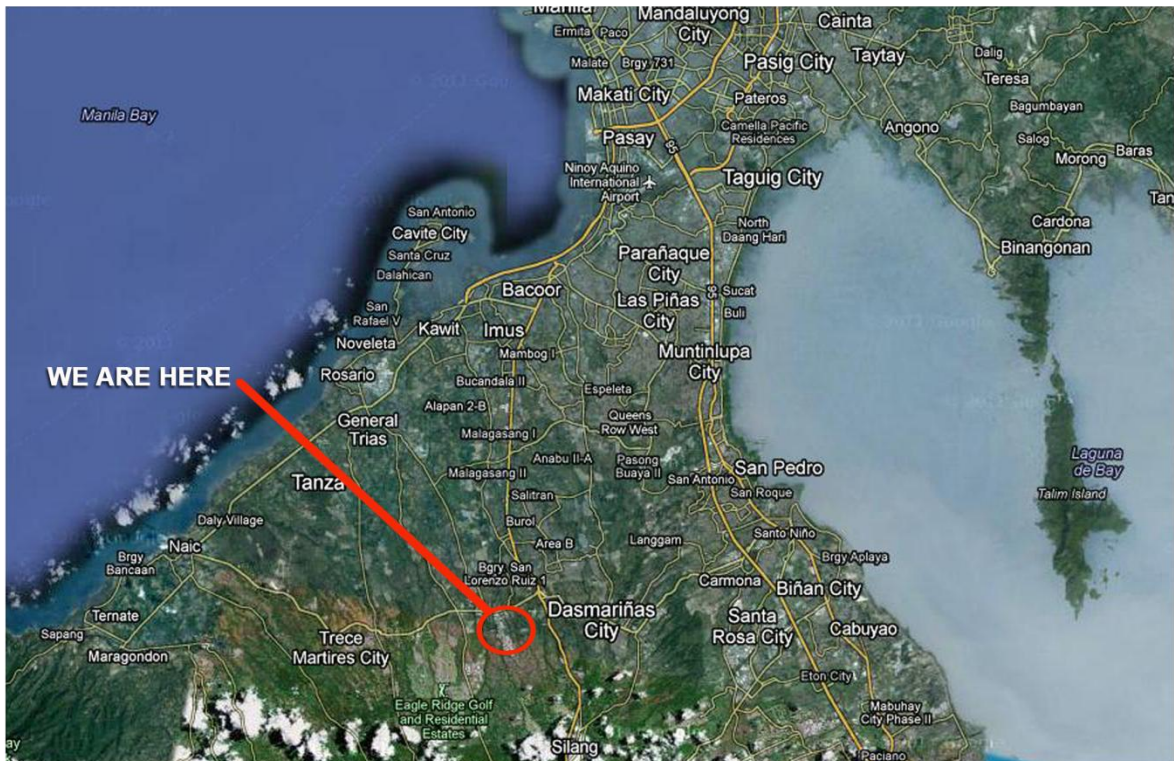
Cebu Office:	-	F. UY Bldg. Natl. Road Tipolo, Mandaue City	-		-	(032) 346 1451
Esmeraldo P. Jumao-as	-	OIC-Regional Sales Engineer	-	Visayas Region	-	(0917) 321 6209
				epjumao-as@vanderhorst.com.ph		
Keith M. Harris	-	Sales Consultant	-	Negros Occidental	-	(0917) 502 7830
				cdrkhrn@gmail.com / cdrkh@yahoo.com		

MINDANAO

Haidee L. Braza	-	Sales Agent	-	Gen. Santos & Southern Mindanao	-	(0920) 579 1830
				haidee.braza@yahoo.com.ph		

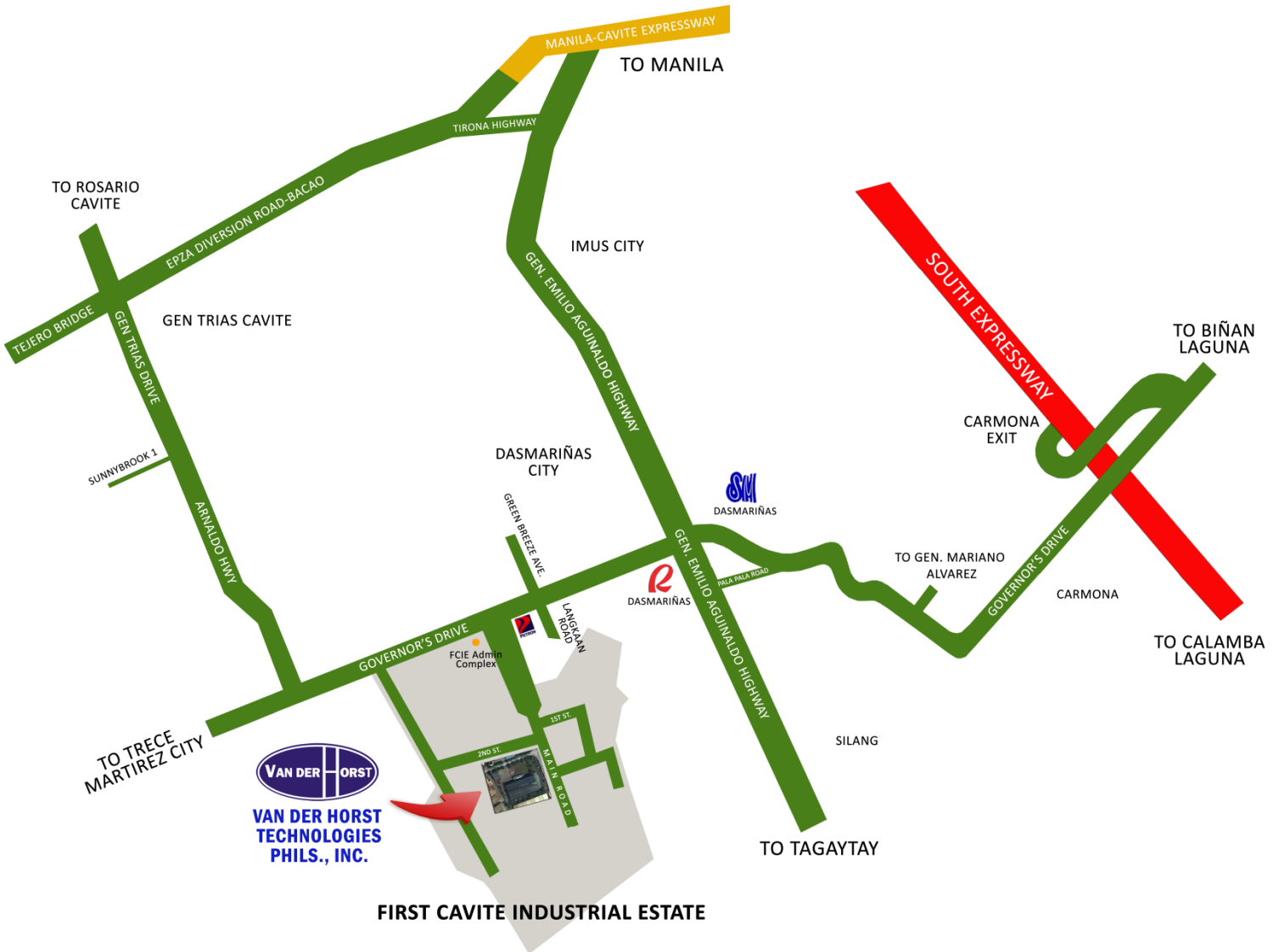
WORKSHOP PERSONNEL

John S. Ferrier	-	General Manager	-	(046) 402 0309 / (046) 402 0302		
				jsferrier@vanderhorst.com.ph		
Jay T. Pelonio	-	Workshop Manager	-	(046) 402 0303 to 06		
				jtpelonio @vanderhorst.com.ph		
Rodulfo S. Galangue	-	QA/QC Supervisor	-	(046) 402 0303 to 06		
				rsgalangue@vanderhorst.com.ph		
Joel S. Concon	-	QA/QC Supervisor	-	(046) 402 0303 to 06		
				jsconcon@vanderhorst.com.ph		





The map below gives directions to our production facility in Dasmariñas, Cavite. We are about 1 ½ hours (approximately 46 km) drive from Manila.





Republic of the Philippines

Securities and Exchange Commission

EDSA, Greenhills, Mandaluyong
Metro-Manila

S.E.C. Reg. No. AS094-006253

TO ALL TO WHOM THESE PRESENTS MAY COME, GREETINGS

WHEREAS, Articles of Incorporation and By-Laws duly signed and acknowledged for the organization of the

VAN DER HORST TECHNOLOGIES PHILS., INC.

Under and in accordance with the provisions of the Corporation Code of the Philippines, R.A. No. 63, as amended, and the Corporation Code of the Philippines, R.A. No. 63, as amended, approved on May 1, 1980, were presented for filing in this Commission on July 11, 1994 and refiled on July 13, 1994, and a copy of said Articles and By-Laws are hereto attached;

NOW, THEREFORE, by virtue of the powers and duties vested in me by law, I do hereby certify that the said Articles of Incorporation and By-Laws were, after due examination and determination whether they are in accordance with law, duly registered in this Commission on the 13th day of July, Anno Domini, nineteen hundred and Ninety-four.

IN TESTIMONY WHEREOF, I have hereunto set my hand and caused the seal of this Commission to be affixed at Mandaluyong, Metro-Manila, Philippines, this 13th day of July, in the year of our Lord nineteen hundred and ninety-four.



Benito A. Cataran
BENITO A. CATARAN
Officer-In-Charge
Corporate and Legal Department





Republic of the Philippines
 Province of Cavite
CITY OF DASMARIÑAS
OFFICE OF THE MAYOR
 Permit and License Division

Business Plate: **1536**
 BusinessID No.: 01-2004-03266
 O.R. Number : 0878042
 Date Paid : 1/16/2014
 Permit Status : RENEWAL
 VALID UNTIL DEC. 31, 2014

MAYOR'S PERMIT

In accordance with the provision of the City Tax Ordinance No. 1 Series of 2003 and No.1 Series of 2010 as amended under the provisions of RA 7160 of the City of Dasmariñas, Cavite and after having satisfied the requirements provided therein, City Permit to operate is hereby granted to the name listed below, in the City of Dasmariñas, Cavite, subject to the Rules and Regulation prescribed in said Ordinance and in all existing laws applicable thereto.

VAN DER HORST TECH. PHILS. INC 8 MAIN DRIVE, FCIE, LANGKAAN 2

Taxpayer Name : VAN DER HORST TECH. PHILS. INC
 Business Class : Contractor - Gen. Eng'g, gen. bldg and specialty contractor

Description	Tax Base	Amount	Surcharge	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
BL - Contractor	93,514,138.27	514,327.76		128,581.94	128,581.94	128,581.94	128,581.94
Mayor's Permit		7,500.00		7,500.00			
Sanitary Permit Fee		55.00		55.00			
Health Permit Fee		2,070.00		2,070.00			
Business Plate / Sticker		250.00		250.00			
Zoning Clearance Fee		75.00		75.00			
Occupancy Permit Fee							
Annual Inspection Fee		8,731.00		8,731.00			
Environmental Protection Fee		2,000.00		2,000.00			
M.O. 06-2005 (Fire Insp. Fee)		150.00		150.00			
			TOTAL (Php)	149,412.94	128,581.94	128,581.94	128,581.94

- Note: 1. Exhibit this permit in your establishment. This is only a privilege and not a right, subject for revocation for and in violation of existing laws and ordinance.
 2. Surrender this permit upon retirement of your establishment.
 3. This permit must be renewed on or before January 20 next year, unless sooner revoked for cause.
 4. Surcharge of 25% for late payment & 2% additional interest per month.

JENNIFER AUSTRIA-BARZAGA
 City Mayor ^{LR}



Certificate No: MNDE/REP/0028/04

**Van Der Horst Technologies Phils., Inc.
Lot 8, Block 4, First Cavite Industrial Estate
Bo. Langkaan, Dasmariñas, Cavite
Philippines**

is approved for:-

Chromium plating of machinery components

for the following purposes:-

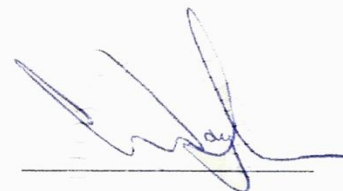
**Wear resistance as part of the initial design submitted for approval.
The rectification of dimensional errors in new components.
The reclamation of certain wasted or worn components.**

This approval is subject to:-

**Plating not being a means of making good a deficiency in strength.
The Owners agreement, except for applications included in the initial design approval.
Nickel and chromium deposits are not used in combination.
Each application for plating crankshafts to be approved by LR London.
Plating being carried out by trained operators to the Surveyors satisfaction.**

This Certificate is issued to the above company and is valid until the date given below.

**Valid Until : 29 May 2015
Date of Issue : 07 June 2012**



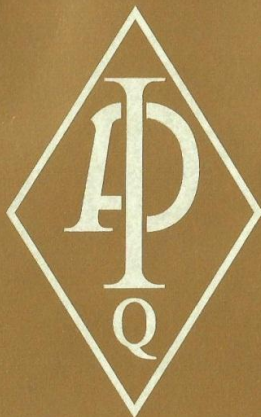
A handwritten signature in blue ink, appearing to read "C D Waylen", written over a horizontal line.

C D Waylen
Principal Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register Group

Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



The Lloyd's Register logo, consisting of the words "Lloyd's Register" in a stylized font, with "Lloyd's" above "Register".



**American
Petroleum
Institute**



2013-146

Certificate of Authority to use the Official API Monogram

License Number: 6A-1485

ORIGINAL

The American Petroleum Institute hereby grants to

**VAN DER HORST TECHNOLOGIES PHILIPPINES, INC.
#8 Main Drive
First Cavite Industrial Estate
Dasmarinas, Cavite
Philippines**

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API Spec 6A** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram should be used in conjunction with this certificate number: **6A-1485**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following product: Flanged Connectors at PSL 1 through 3

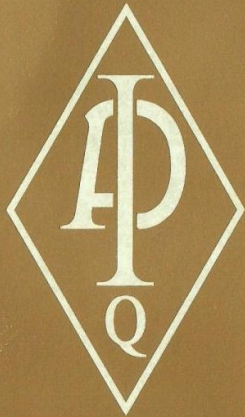
QMS Exclusions: No Exclusions Identified as Applicable

**Effective Date: DECEMBER 20, 2013
Expiration Date: DECEMBER 20, 2016**

To verify the authenticity of this license, go to www.api.org/compositelist.

American Petroleum Institute

Director of Global Industry Services



**American
Petroleum
Institute**



2013-146

Certificate of Authority to use the Official API Monogram

License Number: 16A-0364

ORIGINAL

The American Petroleum Institute hereby grants to

**VAN DER HORST TECHNOLOGIES PHILIPPINES, INC.
#8 Main Drive
First Cavite Industrial Estate
Dasmarinas, Cavite
Philippines**

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API Spec 16A** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram should be used in conjunction with this certificate number: **16A-0364**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Drilling Spools

QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: DECEMBER 20, 2013

Expiration Date: DECEMBER 20, 2016

To verify the authenticity of this license, go to www.api.org/compositelist.

American Petroleum Institute

Director of Global Industry Services



REGISTRATION NO. Q1-1698

Certificate of Registration

The American Petroleum Institute certifies that the quality management system of
VAN DER HORST TECHNOLOGIES PHILIPPINES, INC.
#8 Main Drive
First Cavite Industrial Estate
Dasmariñas, Cavite
Philippines

has been assessed by the American Petroleum Institute and found to be in conformance with the following:

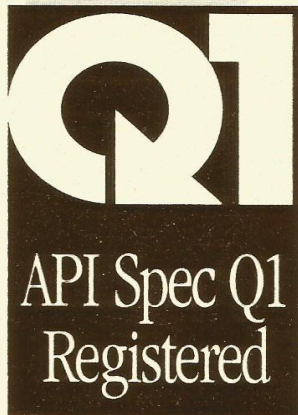
API Specification Q1

The scope of this registration and the approved quality management system applies to the:

Welding, Machining, Grinding, Honing and Chromium Plating Services; Quality Control Inspection Services

API approves the organization's justification for excluding:


No Exclusions Identified as Applicable



Effective Date: December 20, 2013
Expiration Date: December 20, 2016
Registered Since: December 20, 2013

W. Dan Whittaker
Manager of Operations, APIQR

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of API Spec Q1, *Specification for Quality Programs for the Petroleum, Petrochemical and Natural Gas Industry*, and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. This certificate has been issued from API offices located at 1220 L Street, N.W., Washington, D.C. 20005-4070, U.S.A. It is the property of API, and must be returned upon request. **To verify the authenticity of this certificate, go to www.api.org/compositelist.**

2013-148 | 09.13 | 1M | Printed in the USA | 



REPUBLIKA NG PILIPINAS
 KAGAWARAN NG PANANALAPI
 KAWANIHAN NG RENTAS INTERNAS
 REVENUE REGION NO. 009
 REVENUE DISTRICT NO. 054

BIR **2303**
 Form No.
 Revised July 1997

OCN 1RC0000251836

CERTIFICATE OF REGISTRATION

TIN 004-446-371-000	NAME VAN DER HORST TECHNOLOGIES PHILS., INC.	REGISTRATION DATE 12/21/1994
REGISTERED ADDRESS FCIE B-4 L-8 BO LANGKAAN DASMARINAS CAVITE 4114		
REGISTERED ACTIVITY(IES)		
TAX TYPE INCOME TAX VALUE - ADDED TAX WITHHOLDING TAX - EXPANDED/OTH WITHHOLDING TAX - FRINGE BENEF		
REGISTRATION FEE WITHHOLDING TAX - COMPENSATION WITHHOLDING TAX - FINAL		
TRADE NAME VAN DER HORST TECHNOLOGIES PHILS., INC.		LINE OF BUSINESS / INDUSTRY 7421 ARCHITECTURAL, ENGINEERING ACTIVITIES, TECHNICAL CONSULTANCY

I HEREBY CERTIFY THAT THE ABOVE NAMED PERSON IS REGISTERED AS INDICATED ABOVE, UNDER THE PROVISIONS OF THE NATIONAL INTERNAL REVENUE CODE, AS AMENDED.



*Rest. Fee 25807
9-21-04*

JULIO G. ALCASABAS

REVENUE DISTRICT OFFICER (signature over printed name)

10.03.04
RUSTICO M. BAYANI
 ASST. REVENUE DISTRICT OFFICER
 TIN # 134-702-958-000
10/02/04

THIS CERTIFICATE MUST BE EXHIBITED CONSPICUOUSLY IN THE PLACE OF BUSINESS

EN



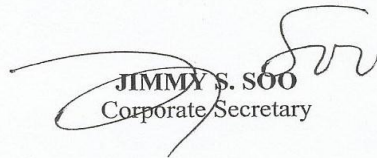
SECRETARY'S CERTIFICATE

I, **JIMMY S. SOO**, of legal age, Filipino, with office address at the 9th Floor, Sage House, 110 V.A. Rufino Street, Legaspi Village, Makati City, being the duly elected and qualified Corporate Secretary of **VAN DER HORST TECHNOLOGIES PHILS., INC.** (the "Corporation"), a corporation duly organized and existing under Philippine laws, with principal offices at the First Cavite Industrial Estate, Dasmariñas, Cavite, under oath, hereby certify that at the special meeting of the Board of Directors of the Corporation held on 06 May 2014, at which meeting a quorum was present and acting throughout, the following resolution was, on motion duly made and seconded, unanimously approved and adopted:

“RESOLVED, That the Board of Directors of **VAN DER HORST TECHNOLOGIES PHILS., INC.** (the “Corporation”), hereby authorizes the Corporation to apply for accreditation with any or all government entities requiring such accreditation.

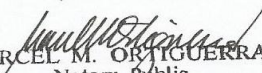
“RESOLVED FURTHER, That any one (1) of **Mr. John S. Ferrier**, General Manager, or **Ms. Melizandra B. Bilolo**, Finance and Admin Manager, be as each is hereby, authorized and empowered to cause the filing of said application and to sign, execute, and deliver the application and other forms necessary therefore.”

IN WITNESS WHEREOF, I have hereunto set my hand this MAY 07 2014 at Makati City.


JIMMY S. SOO
Corporate Secretary

REPUBLIC OF THE PHILIPPINES)
CITY OF MAKATI) S.S.

SUBSCRIBED AND SWORN to before me this MAY 07 2014, affiant exhibiting to me his Phil. Passport No. EB8667237 issued on 15 July 2013 at DFA, Manila.


MARCEL M. ORTIGUERRA
Notary Public
Appointment No. M-356
Until 31 December 2014
Roll No. 59259

Life IBP No. LRN-012380/20 Jan 2014/Makati
TIN 4237873 / 13 Jan 2014 / Makati City
9/F Sage House, 110 V.A. Rufino St., Legaspi Village, Makati City
TIN 303-504-218

Doc. No. 145 ;
Page No. 030 ;
Book No. 1 ;
Series of 2014.
d.vdhtech:s140506



June 7, 2013



VAN DER HORST TECHNOLOGIES PHILIPPINES, INC
8 Main Drive, FCIE, Langkaan 2
Dasmariñas, Cavite

Attention: **MR. GREG SEMBLANTE**

Letter Reference No.: SPI/VANDERHORST – 13 – L0155

**2012 Vendor Performance Evaluation Result
Mindanao Power Plant**

Dear Sir, Madam:

STEAG State Power Inc. (STEAG) congratulates Van Der Horst Technologies Philippines, Inc (Van Der Horst) for being one of the Vendors with Satisfactory rating for CY 2012. Satisfactory rating was given to Vendors garnering 75-89%. Van Der Horst garnered a total rating of 80.50%. Upon your request, we can provide you with the details of your rating.

The above evaluation result was based on STEAG's conduct of its Annual Vendor Performance Evaluation (VPE) for all Vendors with transactions worth Php100, 000.00 and more. The VPE took into consideration STEAG's over-all experience with Van Der Horst in terms of pricing, quality, delivery and customer service / support. Vendors which extended notable valued services were likewise given additional points. Legal and Purchasing can provide you the details of your performance upon your request.

The 2012 Recognition of Vendors garnering 90-100% will be done before year end. With this, we invite Van Der Horst to attend and celebrate with our 7 Outstanding Vendors for 2012. For 2013 onwards, we look forward to seeing Van Der Horst in STEAG's Annual Outstanding Vendor List. We will provide you the details of the 2012 Vendor Recognition Day separately.

Very Truly Yours,

DR. CARSTEN EVERS
Power Plant Manager

ATTY. JEWELA BOISER
Legal and Purchasing Manager

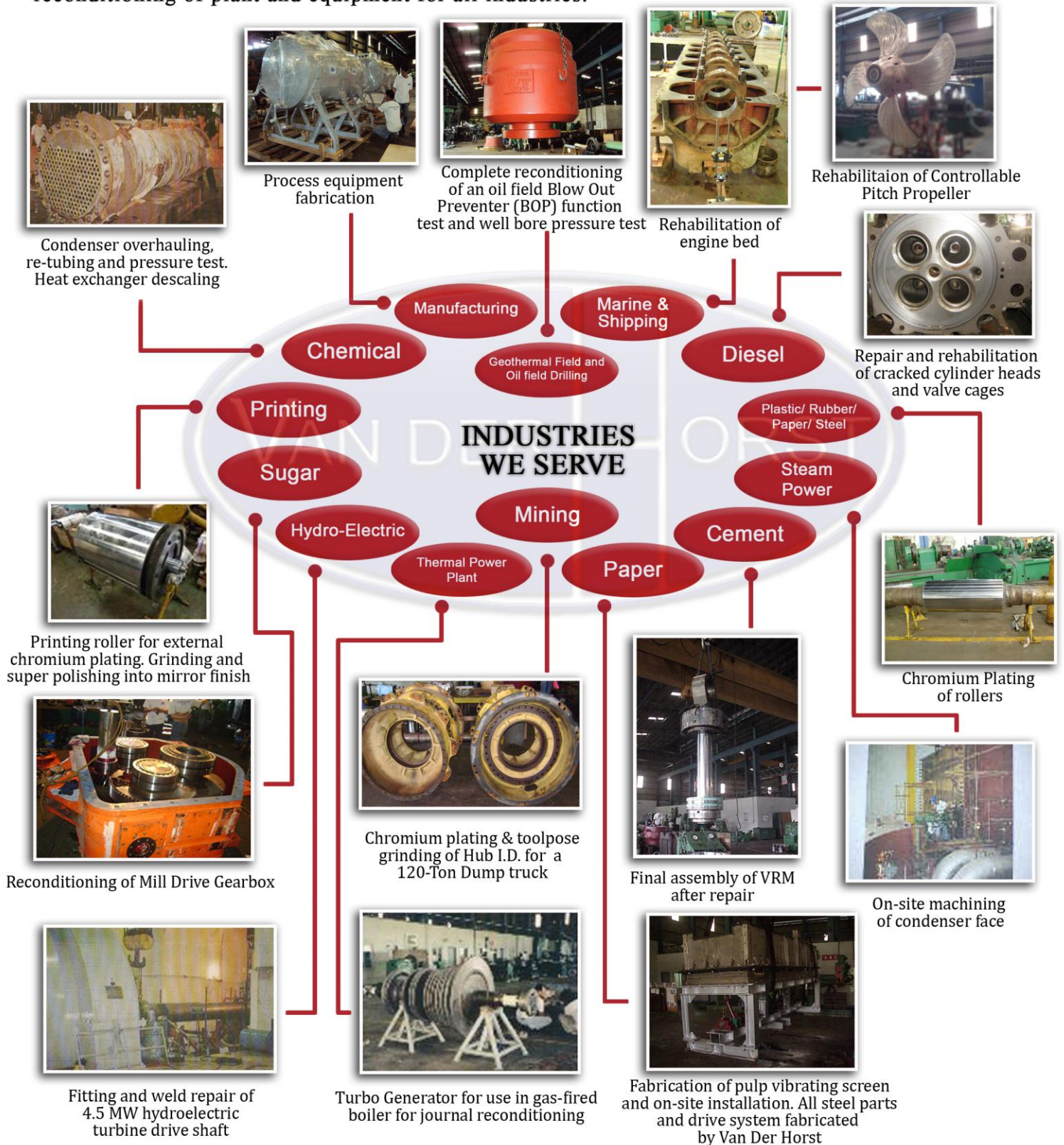
STEAG State Power Inc.
Head Office
20th Floor, Yuchengco Tower
RCBC Plaza, 6819 Ayala Avenue
Makati City 1200 Philippines
Phone +63 (02) 845 1437
Fax +63 (02) 845 3396

STEAG State Power Inc.
Power Plant
PHIVIDEC Industrial Estate,
Balacanas, Villanueva,
Misamis Oriental 9002 Philippines
Phone +63 (032) 230 8200
Fax +63 (032) 230 8283



INDUSTRIES WE SERVE

With over 38 years experience in the Philippines we offer a wide range of engineering services for the reconditioning of plant and equipment for all industries.





MACHINE SHOP, WELDING, IN-SITU AND INSPECTION FACILITIES

MACHINE SHOP

High precision machining with the capacity to handle very large items up to 11 tons in weight with length of up to 6.0 meters to a tolerance of up to $\pm 0.01\text{mm}$.

Our workforce are all experienced machinist who are capable of operating wide variety of equipment. We have approximately 30 machine tools in total on site.

WELDING

All our welders are certified to 6G standard. Our welding capability covers the following areas. Aluminum pistons, steel piston crowns, cast iron and steel cylinder heads, high tensile structural welds and hard facing.

We are also able to weld the following special materials; Copper, brass, nickel, titanium, aluminum, cast iron and alloy steel.

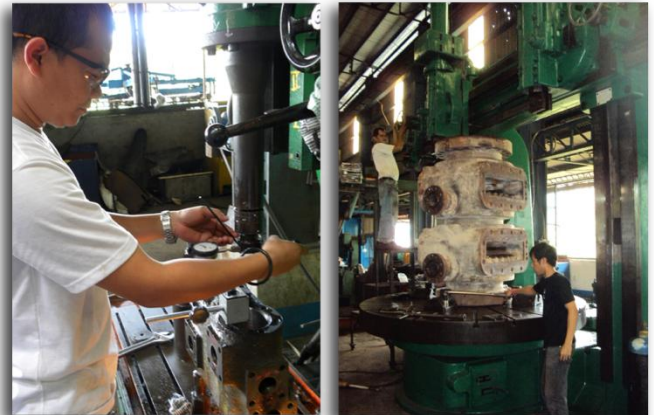
Stress relieving can be carried out up to 1200°C in our computer controlled gas furnace.

CAPABILITY/ EQUIPMENT

- Submerged Arc Welding (SAW) with 14 tons capacity rotator
- Shielded Metal Arc Welding (SMAW)
- Oxygen Acetylene gas fusion Welding
- Gas Tungsten Arc Welding (GTAW)
- Gas Metal Arc Welding (GMAW)
- Oxygen Acetylene Metal Spray (METCO)
- 8 Cubic Meters Computer Controlled Gas Furnace with 1200°C maximum temperature
- Plasma Arc Cutting
- Balancing Machine with 8 tons capacity

IN-SITU / ON-SITE Crankshaft grinding, Dalic Plating, Laser / Bore & Shaft Alignment

Our in-situ capability ranges from diesel engine bed plate line boring up to 11,000 KW engines, flanges facing on boilers and condensers, rebuilding and re-machining steam turbine control and stop valves on up 500 MW turbines. Metal Spraying and Powder (ceramic) build up. On-site crankshaft grinding.





INTERNAL AND EXTERNAL CHROMIUM PLATING FACILITIES

We apply chromium plating with hardness of 60-65 Rockwell-C to rollers, crankshafts, cylinders, liners, parallel and offset shafting, etc.

INTERNAL / EXTERNAL PLATING CAPACITY:

Chromium plating can be applied to rollers and journals of rotating parts. It is also used for hydraulic rods and cylinders.

Van Der Horst Philippines has one of the largest plating facilities in the world. Our plating pits are 5 meters deep and can handle diameters of up to 1.2 meters.

- Deep : 5 meters
- Long : 2 meters
- Wide : 1.3 meters
- Current available : 26,000 Ampere DC @12V

GRINDING

For external finishing we can accommodate all sizes from the very small of items which require the use of a 6 meters grinding machine which has the largest grinding wheel in the world at 1.4 meters in diameter and 8 tons capacity.

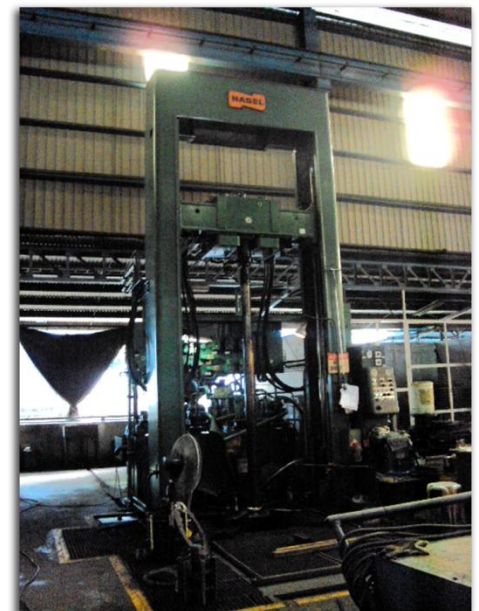
CAPACITY

- 1.2 meters diameter by 6.2 meters long.
- Distance between chuck faces 6.35 meters.
- Center height 650 mm.
- Maximum weight of roll 7,500 kg.
- Maximum offset for crankshaft 350 mm.
- Steady rest diameter 600 mm.
- Maximum weight of crankshaft with 350 mm offset 2.800 kg.

HONING AND FINISHING CAPACITY:

- 50 mm minimum diameter to 1.2 meters maximum diameter.
- Stroke : 3.8 meters

Plating and finishing facilities are unmatched by anyone else as is the skill and experience built up over the past 75 years.





PLANT AND EQUIPMENT



SUPER FINISHING MACHINE

Capable of super polishing rolls
down to a 3 micron finish



UNION GERA HORIZONTAL
BORING MACHINE

Capacity : 5 tons
Horizontal Stroke : 3.3 meters
Vertical Stroke : 1.0 meters



AZ ZANROZO CRANKSHAFT
GRINDER

Stroke : 0.325 meter
Length : 6.2 meters
Capacity : 7 tons



NAGEL HONING
MACHINE

Min dia. : 200 mm
Max. Dia. : 900 mm
Length : 3.8 meters



SURFACE GRINDER

Length : 1.6 meters
Width : 0.6 meter
Height : 0.3 meter



LINDE ROTARY (THIELER)
ROTARY TABLE

Diameter : 1.5 meters
Capacity : 8 tons



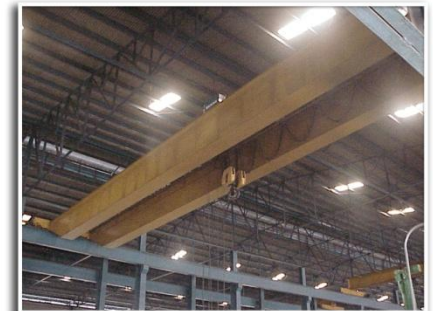
STRESS RELIEVING FURNACE

Capacity: 8 Cubic meters @
1200° C Temperature Control



LINCOLN SUBMERGED ARC
WELDER

Length : 3 meters
Capacity : 1000A x 250V



DEMAG HOIST CRANES

Capacity: 1 unit 20 tons with
auxiliary
3 units 8 tons



PLANT AND EQUIPMENT

EQUIPMENT	SIZE / CAPACITY	BRAND / MAKE
SECTION: MACHINE SHOP		
Horizontal Lathe	540 mm \varnothing x 4.5 m long	Bulgaria
Horizontal Lathe	660 mm \varnothing x 9 m long (2 units)	VDF
Horizontal Boring Machine	1.5 vert. x 4.0 m hor.	Scharman
Rotary Table	2.0 m x 2.0 m x 10 tons	Skoda
Slotting Machine	200 mm vert. stroke (1 ton)	Dortmund
Drilling Machine	1 ½" \varnothing drill (1 ton)	Hersteller
Horizontal Lathe Machine	700 mm long x 200 m \varnothing	H-Ernault
Sharper Machine	400 stroke x 500 table stroke	Hahn & Kolb
Radial Drill Machine	3" \varnothing x 5 tons x 1.0 m table to head distance	Gertner
Horizontal Boring Machine/ Drill Pipe	(5 tons) 3.3 hor. X 1.0 vert.	Union Ghera
Horizontal Lathe Machine	700 \varnothing x 9" \varnothing hollow spindle x 1.0 L	Gurutzpe
Horizontal Lathe Machine	700 \varnothing x 9" \varnothing hollow spindle x 1.0 L	Nile Lathe
Milling Machine	1 m stroke	Toz
Vertical Boring Machine	300 mm \varnothing x 500 mm stroke	Mayer
Vertical Boring Machine	Max. \varnothing 2.2 m Max. Height Under Toolbar 1.3 m	Richard
Vertical Lathe Machine	1.0 m \varnothing x 1.0 m vert. (2 tons)	Schless
Horizontal Lathe Machine	420 mm \varnothing x 3.0 m L	Toz
Horizontal Lathe Machine	340 mm \varnothing x 1.5 m L	Bulsing
Vertical Lathe Machine	1.0 m \varnothing x 1.5 m vert. cap (4 tons)	Zoest
Horizontal Boring Machine	2.7 m hor. x 4.0 m vert. (5 tons)	Scharman
Horizontal Lathe	400 mm \varnothing x 2.0 L	Zseipel
Horizontal Boring Machine	200 m \varnothing x 0.5 L	Schou
Horizontal Lathe	4.0 m L x 1.2 m \varnothing (4 tons)	Ravensburg
Vertical Lathe Machine	2.2 m \varnothing x 2.2 m stroke	Craven
Balancing Machine	4.5 tons cap. @ 3000 rpm	CEMB (Italy)
Horizontal Lathe	600 mm \varnothing x 4.5 m long	Colchester
Vertical Drill	1 m long x 1 m travel	
Roller Bender	75" L, ½" capacity	USA
Gearhobber	16" capacity	Japan
Bandsaw	300 mm horizontal stroke	Amada

SECTION: GRINDING

Surface Grinder	2 feet x 2 meters long	AZ-Zanrozo
Crankshaft Grinder	0.325 through x 6.2 m L (17 tons)	AZ-Zanrozo
Cylindrical Grinder	600 \varnothing x 3.0 m L	MSO-1
Crankshaft Grinder	140 mm stroke / through x 1.5 m	Schou-1
Piston / Valve Grinder	5" \varnothing x 1.3 m L	Schaudt
Cylindrical Roller	500 \varnothing x 4.2 m L	MSO-2
Crankshaft	170 mm stroke / through x 3.0 m L	Schou-2
Manual Polisher (2 units)		Boskh
Super Polishing Machine	Capable of 3 Micron Finish	3M



PLANT AND EQUIPMENT

EQUIPMENT	SIZE / CAPACITY	BRAND / MAKE
SECTION: HONING		
Honing Machine	200 mm min. Ø x 900 mm Ø max. x 3.8 m L	Nagel
Honing Machine	260 mm min. Ø x 640 mm Ø max. x 1.5 m L	Gehring 1
Honing Machine	260 mm min. Ø x 300 mm Ø max. x 1.2 m L	Gehring 1
Man. Honing Machine	400 Ø mm x 1.0 m	Ferrier1
Man. Honing Machine	400 Ø mm x 1.0 m	Ferrier 2
Blasting Equipment (Grit / Sand / Glass Beads)	0.4 m x 0.4 sq. or Dia.	VDHT

SECTION: WELDING

Surface Grinder	35 m H x 0.3 mm W x 1,830 mm L	Billeter
Radial Drill Machine	2" Ø Drill bit capacity	Asquith 1
Surface Grinder	1.6 m L x 0.6 m W x 0.3 MH	Blohm
Horizontal Lathe	450 mm Ø x 0.8 m L	VDHT
Power Hacksaw	250 mm Ø x 12" L	VDHT
Welding Set	300 Amps / 440 V	Safex 1 Welding Set
Welding Set	300 Amps / 440 V	Safex 2 Welding Set
Welding Set	300 Amps / 440 V	Miller
Welding Set	150 Amps / 220 V	Safex 3 Welding Set
Furnace Welding Set	8 cubic m capacity @ 1200° C (With Program Read Out System)	3 Induction Furnace
Plasma Cutting (Can out)	Up to 20 mm S/S x 220 V	ESSAB
TIG Welding	300 Amps	Panasonic
Rotary Table	12 tons x 1.5 Ø m	Linde Rotary (Thieler)
Submerge Arc Weld	3.0 m x 1000 Amps x 250 V – 2 units	Lincoln Arc Welder
Submerge Arc Weld	2.0 m x 1000 Amps x 250 V	
Rotary Table	0.7 m Ø x 3 tons capacity	VDHT
Rotary Table	2.0 m Ø x 3 tons capacity manipulator	VDHT
MIG Welding Machine	500 Amps	L-Tec
Hoist Cranes	1 unit 20 tons, 3 units 8 tons	Demag
Hydraulic Jack	100 tons	
Hydraulic Press	50 tons	VDHT
TIG / Arc Weld	250 AC /DC	Miller



SOME OF OUR MAJOR CUSTOMERS

POWER GENERATING PLANT

Botocan power
Cal Energy
CBK Hydro Power
Kepeco Phils.
Mitsubishi Corp.
Palawan power Generation Inc.
PHP Philippines Hydro Project
Quezon Power Corp.
Siemens Inc.
Team Energy Corp.

SHIPPING / FISHING / CARGO SHIPYARD

Aboitiz Jebsen
Asian Terminals Inc.
Carlos Gothong Lines (CAGLI)
Damalerio Fishing
Frabelle Fishing
Global Marine System, Inc.
International Container Terminal
Keppel Subic Shipyard
Lorenzo Shipping
Mommy Gina Tuna Fishing
Oceanic Container Lines
Philippine Span Asia Carrier Corp.
RD Fishing
Subic Bay Metropolitan Authority

MANUFACTURING INDUSTRY

AGC Flat Glass Phils, Inc.
Asia Brewery
Coca-cola Bottlers Philippines
Fortune Tobacco
James Hardie Phils. Inc.
Kimberly Clark Phils.
Nestle Philippines
Newtech Pulp Inc.
San Miguel Corp. Group of Companies
Universal Robina Group of Companies
Yokohama

EXPLORATION (GEOTHERMAL)

Energy Development Corp.
Petron Corp.
Shell Exploration

CEMENT INDUSTRY

Alsons Cement
Cemex Philippines
Continental Cement
Fortune Cement Corp.
Holcim Philippines, Inc.
La Farge Cement Services, Inc.
Republic Cement Corp.
Union Cement Corp.

SUGAR INDUSTRY

Batangas Sugar
BISCOM Binalbagan Isabela
Sugar Company, Inc.
Central Azucarera Dela Carlotta
Central Azucarera Don Pedro
First Farmers Holding Corp.
Luisita Sugar Central

PRINTING INDUSTRY

Adriano Printing
Central Bank of the Philippines
Consolidated Paper Products
Edsa Printing
July Manufacturing Corp.
Liwayway Corp.
Metrocan Printing
News World
Precision Crestec, Inc.
Rowell Lithography
Vibal Printing

MINING INDUSTRY

Carmen Copper
Coral Bay Nickel Corp.
Philex Mining Corp.
Philippine Gold Processing
Rio Tuba Nickel Mining
Semirara Mining Corporation
Taganito Mining



Van Der Horst has been at the forefront of industrial plating for machinery repair since the 1930's when Dr. Henric Van Der Horst started experimenting with liner plating on early 2 stroke diesel engines. Since then we have achieved recognition as the world leader in industrial chromium plating. Van Der Horst has been located in the Philippines for the past 38 years and we have one of the most up to date chromium plating plants for plating industrial chromium in the world. We plate 20-30 engine liners per month ranging from 160 to 500mm diameter. Our plating and honing operators have an average of 34 years experience in the plating industry so we know our business. We control our plating equipment and solutions based on industry standards developed by Van Der Horst in Europe and Singapore over many years and our name can often be found in reference books relating to industrial chromium plating.

We plate parallel and offset shafting to give them increased hardness, protect them from corrosion or re-standardize due to wear and tear. We also plate many different kinds and configurations of rollers and using state of the art grinding technology can create a range of surface finishes from matt to mirror finish.

We have no doubt that our method of re-standardizing cylinder liners has saved the Philippines millions of pesos in removing the need to replace cylinder liners with new ones and extending useful life by creating a harder and more durable working surface.

In our long history we have plated every size and type of engine liner in existence ranging from aircraft, marine prime power, power generation and automotive applications.

We are accredited by Lloyds register for the chromium plating of machinery components. We plate using anodic deposition of heavy chromium layers up to 1.2mm thick and between 60-65 Rockwell C hardness. To ensure a quality coating we have our own laboratory and chemist in-house. Final finishing is carried out using our special grinding wheels and films of up to 3 microns Ra are possible.

Our factory in the Philippines has plating experience in the following areas.

Materials : Carbon steel, Stainless Steel, Cast iron, Chilled Cast Iron, Copper, Bronze.

Industries : Food, Oil, Rubber, Plastics, Printing, Mining, Power, Tobacco, Timber, Marine, Cement.

Items : Rollers, Flakes, Drums, Bearing Journals, Conductor Rolls, Turbine Shafts, Pump Shafts, Crankshafts, Propeller Shafts, Camshafts, Hydraulic Rods, Piston Pins, Valve Stems, Piston Rods, Electrical Rotors, Piston Crowns.

In addition to our chromium plating capabilities we also offer many other engineering services to our customers, including: Repair and rehabilitation of power and industrial plant, oil rigs and ships, specialty welding, on site repairs, installation of industrial plant and engine rebuilds all the highest standards of quality and professionalism.

Enclosed in this profile is an insight into the services we can provide to you, our customer. We are sure you will be impressed by our capability and quality of service. If you would like to know more we would be most happy to welcome you at our site in Cavite or send over our experts to asses any requirements you may have.

We look forward to hearing from you.



CHROMIUM PLATED DIESEL ENGINE CYLINDER LINERS

The name **VAN DER HORST** has been synonymous with the internal chromium plating of diesel engine liners since the 1930's.

During the period since VDH has plated every size and type of engine liner in existence ranging in use from aircraft, marine prime power, power generation, and automotive application. The range of types of engine from high speed, and low speed, both two stroke and four stroke.

VDH has developed over these years the use of chromium to restandardize worn liners which would normally be scrapped and replaced with new. From time to time VDH has also been involved in plating liners "new" for certain "OEM". This plating both for repair and new is carried out using methods which are proven in industry to be economical both from repair cost against cost of new replacement and in life span and oil and fuel efficiency.

There are various studies and papers available to the reader upon request from VDHT Marketing and Sales Dept.

VDHT Philippines has one of the most up to date state of art chromium plating plants for plating industrial chromium. We plate around 20-30 liners per month ranging from 160 mm Ø to 500 mm Ø. Our Platers and Honers has approximately 34 years of experience average so we know our business. We control our plating equipment and solution based on industry norms mostly developed by VDH in Europe and Singapore over many years in the business and VDH name can usually be found in the text books referring to industrial chromium plating.

There is no engineering reason for not using chromium plated liners. Mostly there is a biased opinion against it based on lack of knowledge on what is actually done or there is commercial interest to be protected.

We have no doubt that over the last 38 years in the Philippines, VDH method of restandardising cylinder liners has saved this country millions of pesos in not having to replace new cylinder liners and because of the extended life found with the harder and more durable chromium surface.

Diesel Engines today have piston rings chromium plated, normally the top ring and scraper rings. The reason for plating rings and not liners is cost and time.

In new engine, plating liners would take time and cost more to produce and if an OEM is building numerous multi cylinder engines he probably could not afford the time involved in plating liners unless there was a plant set up specifically for particular size of liner.

On the other hand when liners are worn to OEM specification limits it is worth the owner's time and money to pay up to 60% - 70% the cost of the new liner and get a longer life span from plated liner.

The extension of ring life is also noticeable with plated liners because of conditions found with Chromium.



It is expected that cast iron piston rings in a chromium plated liner would wear rapidly because of hardness difference.

This has been proved not to be the case.

The life of the piston rings under the conditions of Chromium liners is in fact extended.

The possible explanation is that due to the hardness of the Chromium, abrasive particles cannot embed themselves in the Chromium. These particles would act like sharpened edges allowing scuffing and wear if they did manage to embed in the Chromium as they would in cast iron or other softer metals (See table).

PROPERTIES OF CHROMIUM VS.CAST IRON

OROPERTIES	CHROMIUM	CAST IRON
Hardness	60-65 RC	13.5 RC
Coefficient of Friction	0.12	0.30
Electrical Conductivity	0.16	0.11
Thermal Conductivity	0.66×10^{-6}	0.80×10^{-6}

The use of chromium plating in aircraft engines both from new and for repair has long been used. The F.A.A rules regarding plating of these liners are basically the same as parameters used in any engine liner covering, solution, current density, and finishing. It is hard to deny the use of chromium in diesel engines when such strict requirements like F.A.A rules allow the use in aircraft engines.

We welcome any requires or questions on plating of engine components and anyone who has doubts is welcome to visit our plant to see for themselves our abilities and get an idea of our track record on this line of work.

On understanding of chromium plating, it may help you save your company a lot of money on repair and maintenance and cost of replacement parts.

It must be remembered that Chromium Piston Rings and Chromium Liners do not work. From the first stroke they are destroyed and if not shut down immediately can cause serious piston failure and lubrication contamination.



INDUSTRIAL HARD CHROMIUM PLATING

Since 1930's when Van Der Horst started working with chromium plating for the use in diesel engines we have come a long way in the many uses of plating internally and externally.

In Industry we plate parallel and offset shafting to either give them hardness, protect them from corrosion or to restandardize when they wear out.

There are many configurations of rollers and endless uses. When rollers are working in industrial applications they will come in multiples often with very close working gaps plus finished surfaces from matt to mirror finish.

VDH has now more or less worked on every type of roller in the Philippines over the last thirty six (36) years, either chromium plating or grinding only.

Material to be plated as follows:

- | | |
|--------------------|----------------------|
| 1. Steel | 4. Chilled Cast Iron |
| 2. Stainless Steel | 5. Copper |
| 3. Cast Iron | 6. Bronze |

Industries Involve:

- | | |
|-------------|------------|
| 1. Steel | 7. Mining |
| 2. Food | 8. Power |
| 3. Oil | 9. Tobacco |
| 4. Rubber | 10. Timber |
| 5. Plastic | 11. Marine |
| 6. Printing | 12. Cement |

Items:

- | | |
|--------------------|-----------------------|
| 1. Rollers | 9. Camshafts |
| 2. Flakers Drums | 10. Hydraulic Rods |
| 3. Bearing Journal | 11. Piston Pins |
| 4. Conductor Roll | 12. Valve Stem |
| 5. Turbine Shafts | 13. Piston Rods |
| 6. Pump Shafts | 14. Electrical Rotors |
| 7. Crankshafts | 15. Piston Crowns |
| 8. Propeller Shaft | |



Chromium when applied on the wide variety of situation (shown previously) can be used for:

1. Restandardising

This means worn out areas can be brought back to original size using a layer up to 3 mm on diameter depending on component.

2. Protection

This will mean a coating which will protect from acids, chemicals, water and gas all base materials. There are of course some materials which attack chromium and we need to know your application before we plate.

3. Finish

Because of the nature of chromium we can give super finish characteristics to plated layers.

4. Durability

Hardness is one of the main features of chrome this will protect softer material and extend life of rolls.

5. Non-stick

Chromium when plated and polished is literally non wettable meaning that very few materials will stick to chromium.

Chromium can be used in extreme cold to high temperature applications with no problem as the expansion coefficient is in the same range as all materials mentioned earlier.

PROPERTIES OF VARIOUS MATERIALS

Property	Cast Iron	Chromium	Copper	Carbon Steel
Hardness (Rc)	13.5	63	3	11
Co-Efficiency of Friction	0.30	0.12	0.28	0.80
Co-Efficiency of Electrical Conductivity	0.11	0.16	0.97	0.12
Co-Efficiency of Thermal Conductivity	0.80×10^{-6}	0.66×10^{-6}	0.90×10^{-6}	0.63×10^{-6}
Wear Resistance	Good	Excellent	Bad	Moderate
Oil Spreadability	Good	Excellent	Bad	Good



Limitation: Chromium is extremely hard and brittle it is not good in contact applications where high pressure is used.

There are certain acids and chemicals that attack chromium. VDH can give you a listing if you are doubt.

If you have damaged or worn rolls up to 1.2 m in \emptyset to 6.2 m long we can plate and grind. Anything above this we would look at on a case to case basis. Absolute maximum for grind on diameter is 1.82 m \emptyset .

Chromium Plating can be applied on bodies and journals so can be used to completely rehabilitate a roller, rotating member or stroking rod.

Internal Plating of Hard Chromium

This can be used to save;

1. Hydraulic Cylinders
2. Bearing Housings
3. Compressor Cylinders
4. Mud Pump Liners

The understanding of chromium plating and its numerous applications can be cost saving and if you are interested to see our plant and get a basic understanding please contact our Marketing and Sales Staff.

We have been in the business since the Mid 30's so **VAN DER HORST** is synonymous with Chromium Plating.

The perimeters used in plating have been a development by VDH in Europe and Singapore and our name can be found in most Technical Manuals on Chromium Plating and its uses in Industry.



November 21, 2000

TO : SALES BULLETIN

SUBJECT : CHROMIUM PLATING DIESEL ENGINE LINERS

In the early stage of Van Der Horst, Dr. Hendrik Van Der Horst experimented with liner chromium plating in 2 strokes diesel engines. This is when the marine industry was talking diesel engine power for vessels seriously. We know from history that diesel power far overtook steam power in the 30's and 40's.

The experiments carried out eventually developed **Porous Chrome** and during experimentation there were failures until both the mythology and plating system were finally achieved.

Since these times both in Europe and America where Dr. Van Der Horst went during the war years some engine companies developed their own plated surfaces for liner based on Van Der Horst method and produced (and in some cases to this day) Plated liners for use in new built engine.

Most engine manufacturers now use plated rings rather than plated liners. Factors contributing to this obviously cost and time. Cost saved because of size of ring face and volume that can be plated compared to a liner and time because of easy handling of rings in comparison with liners.

Today chromium plating of liners is for restandardsizing purposes and we as Van Der Horst still use the basic method finalized by Dr. Van Der Horst after his experiments were proven.

The keyword in above brief history is experiment. Today we have a sound and proven track record in plating areas after all we have been doing it for 65 years.

Chromium plating is not a difficult or magical process but internal plating and finishing of diesel engine liners is an art and not an experiment. Anyone who is not using or has not got total information on the intricacy of plating liners is experimenting. If you are trying to plate liners and you make one mistake it can cause a lot of serious damage. If you want the job done properly and with a reputation of proven system you go to Van Der Horst. Anyone else who is selling this work is still experimenting with your liners.

Cost is a big factor. We are total leaders in this field worldwide; we charge rates which give you back a standard re-usable liner from one that would be scrapped. Charge may seem higher, consider the cost if a less experienced company does a liner cheaper and it fails, that is costly and done by experiment.

Anyone can now use the description "**Porous Chrome**" to describe what they are doing on liners. Only one name means it **VAN DER HORST**.

We are approved by Lloyd's Register of Shipping to save engine parts using chromium plating.

** Van Der Horst Technology
Internal-combustion Engine V.L. MALEEV p. 406-407
Mechanical Engineering July 1941 p. 536*



MACHINE SHOP, WELDING, IN-SITU AND INSPECTION CAPABILITIES

When Doctor Hendrik Van Der Horst started his experiment with chromium plating of diesel engine cylinder liners in the early 1930's his main aim and achievement was solely for this type of repair.

When in the 1960's Van Der horst moved to Singapore they decided to offer general engineering services as a complement to their chromium plating work.

Since its inception in the Philippines in 1970's VDHT has offered along with its plating facility machining, specialist welding, fabrication, inspection, services and In-situ repairs.

In our machine shop we have gained a reputation for high precision machining with the capacity to handle very large items such as cutter shafts for dredging industry up to 11 tons in weight with a length of 4.5 meters down to small but high degree of tolerance shaft seals for steam turbines.

Our work forces are all experienced machinist who are capable of operating everyone of our wide variety of machines some thirty (30) machines in total. We also have the capacity to build up worn equipment with oxy acetylene metal spray (METCO). We have two overhead cranes with maximum lift on 1 hook of 20 tons and two (2) auxiliaries of 8 tons.

Our in-situ capability ranges from diesel engine bed plate line boring up to 11,000 - KW engines. Flanges facing on boilers and condensers, rebuilding and re-machining steam turbine control and stop valves on up to 500 MW turbines.

Our welding department has now reached the stage of a high degree of skill in welding aluminum pistons, steel piston crown, cast iron and steel cylinder heads, high tensile structural welds and hard facing.

Our range of welding equipment varies from Submerged Arc with 14 ton capability rotator, GMAW, GTAW and standard arc weld, oxy acetylene fusion welding. All of our welders are qualified. We back up our welding with the ability to stress relieve where required up to 612°C in our computer controlled gas furnace cubic capacity of 8 cubic meters.

In-situ overhaul of industrial machinery and power plant equipment is also a part of our agenda with our group of skilled fitters and riggers we have carries our various large projects throughout the Philippines.

Quality Control Department has a full range of engineering measuring and inspection tools which we use in shop for pre and post inspection on work carried out at our plant. We are available to make inspection and reports all over the Philippines.

**FOR YOUR ENGINEERING NEEDS CALL US. WE DO OUR BEST TO GVE IN-HOUSE, IN-SITU ONE
STOP SHOP TOTAL REPAIR.**