40 Since 1977



Pre-Qualification

Ultra High Purity

Hy-Lok

www.hy-lok.com

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1. COMPANY PROFILES

COMPANY STATUS

UHP (Ultra High Purity) Factory



Hy-Lok is a world leader in UHP (Ultra High Purity) Products and known for more than 40 years of experiences in fast track delivery, special materials and special design.

Our UHP Products are produced from special materials; such as Stainless Steel, VOD (Single Vacuum Melting), VIM / VAR (Double Vacuum Melting) - suitable for extraordinary applications.

With our highest level of flexibility, in-house production, technical know-how and dedicated staff, we look forward to be your perfect business partner in semiconductor application.

Principal Facilities



Clean Room



Electro Polishing Machine



Ultra Cleaning Machine



Deionized Water Cleaning



Particle Counting Tester



Stereo Microscope



Helium Leak Tester

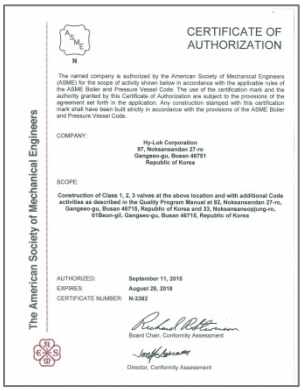


Vacuum Packing Machine

1. COMPANY PROFILES

QUALITY & CERTIFICATES

It has always been clear to the management of Hy-Lok that quality cannot be an issue in the served industries. It is simply our philosophy. All our employees are well educated and trained and fully aware of the fact that our products have to be of the highest level and quality which cannot be composed in any way. Dedicated in manufacturing the best valves. This is endorsed by the following certifications of our quality management system.















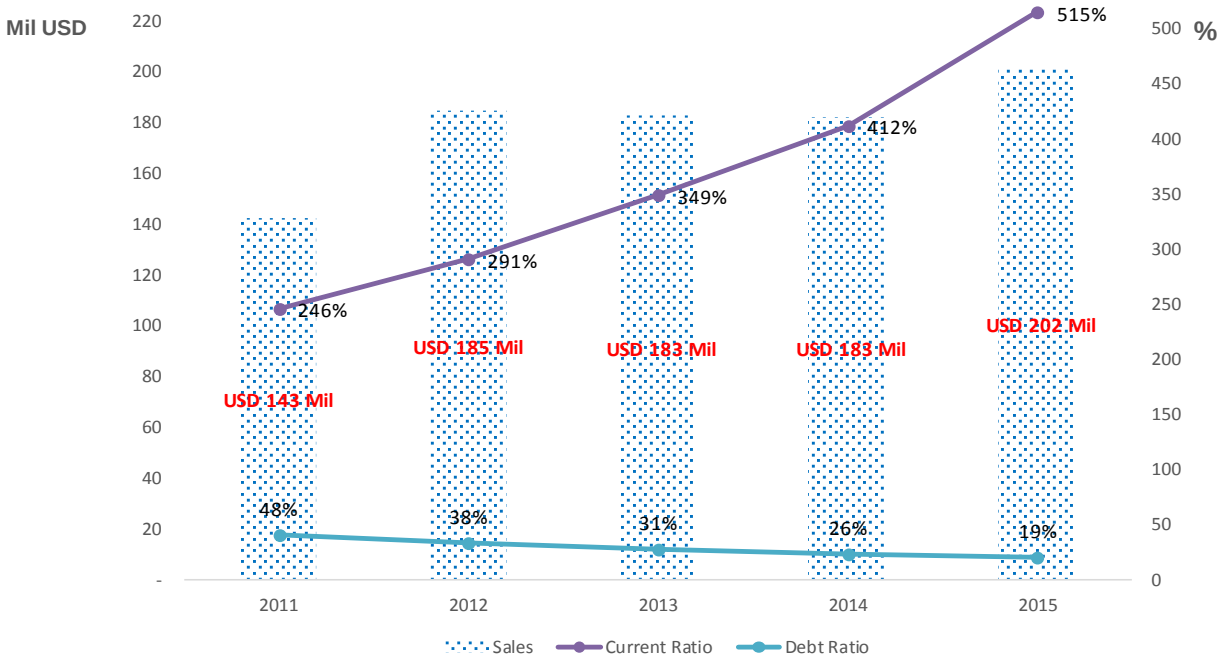
- ASME N / NPT / NS
- 97/23/EC PED, Module H
- ISO 9001 : 2008
- API 6D / 6A / 6DSS Monogram License
- OHSAS 18001 : 2007
- ISO 14001 : 2004
- Achilles JQS

1. COMPANY PROFILES

FINANCIAL REPORT

Unit : USD

Account	Year 2011	Year 2012	Year 2013	Year 2014	Year 2015
Current Assets	140,434,231	161,743,878	187,559,996	207,178,435	226,235,005
Quick Assets	76,897,609	104,286,829	139,167,563	146,178,854	164,478,508
Inventories	63,536,621	57,457,049	48,392,434	58,820,270	60,977,980
Non-Current Assets	79,553,070	82,673,486	83,789,664	91,113,931	101,764,866
Investments	6,681,108	6,844,103	10,916,510	13,283,026	15,187,960
Tangible Assets	67,217,956	68,933,917	65,818,203	69,188,205	78,440,024
Intangible Assets	5,280,213	6,355,066	6,517,551	6,716,116	6,440,553
Total Assets	219,987,300	244,417,364	271,349,660	298,292,366	327,999,871
Current Liabilities	57,101,316	55,581,023	53,712,609	50,272,143	43,903,267
Non-Current Liabilities	6,235,187	5,514,458	5,080,903	5,811,192	5,213,818
Total Liabilities	63,336,502	61,095,481	58,793,513	56,083,335	49,117,086
Capital	6,806,616	6,806,616	6,806,616	6,806,616	6,806,616
Accumulated Other Comprehensive Income	-	-	-	-	-
Retained Earnings	126,000,584	152,671,669	181,905,934	211,558,818	248,232,571
Total Shareholder's Equity	132,807,200	159,478,285	188,712,550	218,365,434	255,039,187
Current Ratio	**246%**	**291%**	**349%**	**412%**	**515%**
Debt Ratio	**48%**	**38%**	**31%**	**26%**	**19%**
Sales	**142,760,601**	**184,830,916**	**183,099,501**	**182,801,444**	**201,999,326**
Operating Profit	29,347,973	40,406,885	42,375,016	45,918,509	53,374,391
Net Income	23,521,548	28,407,856	32,875,544	35,570,036	43,113,145



1. COMPANY PROFILES

WORLDWIDE SERVICE NETWORK

Country		City	Agency	Tel.	E-mail
Europe	**Netherlands**	**Hoogeveen**	**Hy-Lok Europe BV**	**+31 528 23 4084**	**sales@hy-lok.nl**
		Tholen	Bergen Stainless & Steel Products BV	+31 66 60 57 51	bssp@bssp.nl
		Wijchen	Handelsonderneming PD BV	+31 24 3565688	info@pdhandel.nl
	Belgium	Rixensart	Cameco NV SA	+32 2 652 1730	Jacques@cameco.be
	Czech	Most	HACO Merici a Regulacni Technika S.R.O	+420 476 700 509	info@hacomrt.cz
	Denmark	Taastrup	PG Flowteknik	+45 7384 1230	info@pgflowteknik.dk
	Finland	Espoo	AVS-YHTIOT OY	+358 9613 316	info@avs-yhtiot.fi
	France	Argenteuil	DEFA S. A.	+33 1 3025 9420	contact@defa.fr
	Germany	Oyten	Hy-Lok D	+49 420 769 940	info@hy-lok.de
		Bremen	Hansa-Flex Hydraulic Gmbh.	+49 421 489 070	info@hansa-flex.com
	Italy	Milano	Indra SRL	+39 029 729 8663	indra@indra.it
	Norway	Sola	Flowtec	+47 47 88 2027	helge@flowtec.no
		Hafrsfjord	HydraServ	+47 911 35 785	ew@hydraserv.no
	Poland	Gdansk	ECOZAM Sp.z.o.o.	+48 58 522 0380	info@verdigroup.pl
	Russia	Moscow	Fluid Line	+7 495 517 7261	slobodov@fluid-line.ru
	Slovak Republic	Bratislava	ECM ECO Monitoring a.s.	+421 24 342 9417	ecm@ecm.sk
	Spain (& Portugal)	Tarragona	Arcamo Controls SA	+34 977 55 4739	arcamo@arcamo.com
	UK	Aberdeen	TIS Hydraulics	+44 1224 775 277	sales@tis-hydraulics.com
Middle East	**UAE**	**Dubai**	**Hy-Lok Middle East (Branch Office)**	**+971 4 882 3018**	**anzal@hy-lok.com**
		Dubai	East West Trading International	+971 4 3680249	anwar.q@ewi-intl.com
		Abu Dhabi	Next Engineering Equipments Trading	+971 2 6289100	sales@nextengg.com
	Bahrain	Manama	ALMOAYYED International Group	+973 17700777	cvmurthy@almoayyedintl.com.bh
	Iran	Tehran	ATDM (Avizheh Technology and Development of Middle East)	+98 21 8855 2948	amirsabbagh4@gmail.com
		Tehran	Siraf Tejarat Ltd.,	+98 21 8888 9322	f.khajehpour@siraftejarat.com
	Kuwait	Kuwait City	United Technical Industrial Services Est. (UTIS)	+965 2241 1263	akbar@utis-kw.com
	Oman	Muscat	Abu Ilyas Trading LLC	+968 244 80939	bijuraj@abuilyas.co.om
	Qatar	Doha	Well Field Industrial Suppliers & Services WLL	+974 442 9609	nbm@wellfieldqatar.com
	Saudi Arabia	Dammam	Al-Abdulkarim Holding Company (Naizak Global Eng. System Est)	+966 3 897 4721	abdalltm@akh.com.sa
America	**USA**	**Houston**	**Hy-Lok USA**	**+1 832 634 2000**	**info@hylokusa.com**
	Canada	**Edmonton**	**Hy-Lok Canada**	**+1 780 409 4484**	**info@hylok.ca**
	Argentina	Buenos Aires	CPI Suppliers S.A.	+54 11 4701 4386	info@cpisupplierssa.com.ar
	Bolivia	Santa Cruz	Petroplus	+591 3 355 5800	petroplus@petroplus.cc
	Brazil	Sao Paulo	Hy-Lok Brazil Ltd.	+55 19 3432 1444	paulo@hylokbrasil.com.br
	Chile	Santiago	SMC Pneumatics Chile S.A.	+56 2 270 8600	ingenieria@smcchile.cl
	Colombia	Bogota	Imposabys	+57 1 605 3923	vgarcia@imposabys.com
	Costa Rica	Santa Ana	EBM & Associates	+506 8836 0759	e.bejarano@ebmglobal.net
	Mexico	Tlanlnepantla	QTS Mexico, S.A. de C.V.	+52 5 240 7415	adiaz@hylokmexico.com
	Puerto Rico	Manati	Pharmaceutical Processes Systems, Inc	+1 787 854 5477	eduardo.perez@ppspr.com
	Venezuela	Caracas	Valconca-Valvulas y Conexiones, C.A.	+58 242 364 0111	-
Asia	**China**	**Shanghai**	**Hy-Lok China Co., Ltd.**	**+86 21 6230 8533**	**info@hy-lokchina.com**
	Singapore	**Singapore**	**Hy-Lok Singapore**	**+65 6 862 8811**	**hylok@singnet.com.sg**
	India	Gujarat	Narmada-Fluid Controls	+91 264 224 9432	superdiesels@hotmail.com
		Greater Noida	River Engineering Pvt. Ltd	+91 120 674 9910	Info@riverengg.com
		Mumbai	Rioj International	+91 22 2756 5255	rioj2005@yahoo.co.in
		Kolkata	SSSP Technologies	+91 98306 88788	phalgunibanerjee943@yahoo.in
	Indonesia	Tangerang	PT Duta Excellence Teknindo	+62 21 2225 1009	sales@dex.co.id
		Jakarta	PT. Hydro Industrial Automation	+62 21 5830 3530	hydro_hia@cbn.net.id
		Surabaya	PT Inko Matalindo Ind. Supply Co.	+62 31 3520760	sales@inkomet.com
	Japan	Osaka	Flobal Corporation	+81 6 6457 2688	overseas_sales@flobal.jp
		Osaka	IGETA	+81 6 6754 1523	igeta@fuga.ocn.ne.jp
		Osaka	Daisho Sangyo	+81 6 6121 6011	info@daishosangyo.co.jp
		Tokyo	Umbersoll	+81 3 5642 2071	m.suda@umbersoll.com
	Malaysia	Kuala Lumpur	DEEPLOY Topside SDN BHD	+603 5033 4620	boonte@deeploycom.my
		Klang	Flytech Engineering Bhd. Sdn.	+603 3373 2228	flytech@po.jaring.my
	Pakistan	Karachi	Abugurt (Pvt) Ltd.	+9221 3454 8050	info@abgurt.com
	Philippines	Manila	Morse Hydraulics System Corporation	+63(2) 288-6996	morsehsc@salgroupco.com
		Santa Rosa	BF High Pressure Technology Company	+63 49 544 0918~9	bfhptc@gmail.com
	Taiwan	Taipei	Ja Chan Co., Ltd.	+886 2 8521 8891	jachanco@ms32.hinet.net
	Thailand	Bangkok	Astute Solution Co.,Ltd.	+66 2300 1789	sales@astute-soln.com
	Vietnam	Ho Chi Minh	KOVIS Engineering & Construction	+84 8 3514 6132	yskim@kovis.com.vn
		Ho Chi Minh	Comnet Industries Company	+84 8 3899 4922	nhtai@cicvietnam.vn
Oceania	**Australia**	**Melbourne**	**Hy-Lok Oceania P/L (Melbourne)**	**+61 3 9334 5700**	**sales@hylok.com.au**
		Perth	Hy-Lok Oceania P/L (Perth)	+61 433 761 428	heather@hylok.com.au
Africa	**Nigeria**	**Lagos**	**Hy-Lok Nigeria**	**+234 1 4621 606**	**info@hy-loknigeria.com**
	Egypt	Cairo	Gabr Industrial Services (GIS)	+20 2 2690 8933	mgabr@gis-eg.com
	Republic of South Africa	Sandton	Hydramatics Control Equipment	+27 11 608 1340	mjones@hydramatics.co.za

2. MANUFACTURING PROCESS



1. Raw Material



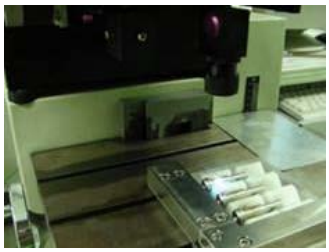
2. Machining



3. Decreasing



4. EP (Electro Polishing)



5. Marking



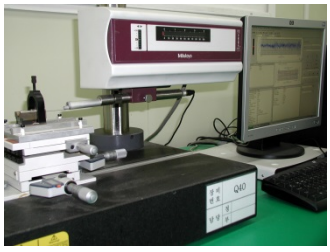
6. Deionized Water Cleaning



7. Welding



8. Inspection



9. Surface Roughness



10. Assembly



11. Operating Test



12. Helium Leak Test



13. Particle Counting Test



14. Packing



15. Storage

3. PRODUCTS RANGE

Our production range covers UHP (Ultra High Purity) Products on customer specification.
We therefore only show a part of our total range. If you are looking for a different fittings and valves than shown in this PQ, do not hesitate to contact our sales department.









3. PRODUCTS RANGE

FITTINGS

Catalog No. H-250CF



Tube Weld Fittings

Applications

High Purity Gas Line, Vacuum System

Features

Auto Welding Design 316, 316L, VOD, VIM / VAR Stainless Steel
Cleaning : 18M Ω cm Hot D.I Water
Cleanness : Class 10
Helium Leak Rate : $1x10^{-9}$ atm.cc / sec.

Max. Operating Pressure @ 100℉ (38℃)	Temperature		Material			Connection Type	Max. End Connection Size
	Min	Max	S316/316L	VOD	VIM/VAR		
9000 psig (630 bar)	-350℉ (-210℃)	1000℉ (538℃)	O	O	O	Butt Weld	1" / 25mm

Catalog No. H-250CF



Metal Gasket Face Seal Fittings

Applications

High Purity Gas Line, Vacuum System

Features

Auto Welding Design 316, 316L, VOD, VIM / VAR Stainless Steel
Cleaning : 18M Ω cm Hot D.I Water
Cleanness : Class 10
Helium Leak Rate : $1x10^{-9}$ atm.cc / sec.

Max. Operating Pressure @ 100℉ (38℃)	Temperature		Material			Connection Type	Max. End Connection Size
	Min	Max	S316/316L	VOD	VIM/VAR		
9000 psig (630 bar)	-350℉ (-210℃)	1000℉ (538℃)	O	O	O	ZCR Metal Gasket Seal	1" / 25mm

3. PRODUCTS RANGE

REGULATORS

Catalog No. H-HPGR400S, HPGR800S



Regulators (400, 800 Series)

Applications
Semiconductor, Research Laps

Features
Point-of-Use
Free Poppet / Tied Diaphragm Type
10 Ra or 5 Ra Microinch Internal Surface
Metal to Metal Body to Diaphragm Seal
Low Particle Entrapment

Max. Operating Pressure @ 100℉ (38℃)	Temperature		Material			Connection Type	Max. End Connection Size
	Min	Max	S316/316L	VOD	VIM/VAR		
3500 psig (241 bar)	-40℉ (-40℃)	350℉ (177℃)		O	O	ZCR (M), ZCR (F), Butt Weld, Compression Two Ferrule	1/2″

VALVES

Catalog No. H-CW100



All Welded Check Valves

Applications
Semiconductor, Biotech, Pharmaceutical, Ultra Pure, Flammable or Toxic Fluid Line

Features
All Welded Design
316L VOD Stainless Steel
Compact Design
Low Particle Entrapment

Max. Operating Pressure @ 100℉ (38℃)	Temperature		Material			Connection Type	Max. End Connection Size
	Min	Max	S316/316L	VOD	VIM/VAR		
3000 psig (207 bar)	-10℉ (-23℃)	400℉ (204℃)		O	O	ZCR (M), ZCR (F), Butt Weld, Compression Two Ferrule	1/2″

3. PRODUCTS RANGE

VALVES

Catalog No. H-BL100



Bellows Valves

Applications
Semiconductor, Biotech, Pharmaceutical

Features
2-Way Design
316L VOD Stainless Steel
Metal Bellows Seal
Long Life Cycle
PCTFE Seats

Max. Operating Pressure @ 100℉ (38℃)	Temperature		Material			Connection Type	Max. End Connection Size
	Min	Max	S316/316L	VOD	VIM/VAR		
500 psig (34.4 bar)	-20℉ (-28℃)	200℉ (93℃)		O	O	ZCR (M), ZCR (F), Butt Weld, Compression Two Ferrule	1/2″

Catalog No. H-BL200



Forged Bellows Valves

Applications
Semiconductor, Biotech, Pharmaceutical

Features
2-Way Forged Body Design
316L VOD Stainless Steel
Metal Bellows Seal
Long Life Cycle
PCTFE Seats

Max. Operating Pressure @ 100℉ (38℃)	Temperature		Material			Connection Type	Max. End Connection Size
	Min	Max	S316/316L	VOD	VIM/VAR		
145 psig (10 bar)	-20℉ (-28℃)	200℉ (93℃)	O	O		ZCR (M), ZCR (F), Butt Weld, Compression Two Ferrule	3/4″ ~ 1 1/4″

3. PRODUCTS RANGE

VALVES

Catalog No. H-BLY100S



Y-Type Manual Ball Valves

Applications

High Purity Gas Distribution System Control
High Purity Gas Valves for Point-of-Use Service
Superior Containment and Cleanness for Most Critical Valve Application

Features

Bellows Design for High Purity and Long Life Cycle
Compact Design
10 Ra or 5 Ra Microinch Internal Surface
Downstream Purge Connections are available

Max. Operating Pressure @ 100℉ (38℃)	Temperature		Material			Connection Type	Max. End Connection Size
	Min	Max	S316/316L	VOD	VIM/VAR		
100 psig (7 bar)	-10℉ (-23℃)	150℉ (65℃)		O	O	Butt Weld	1/2" ~ 3/4"

Catalog No. H-DV100



Diaphragm valves

Applications

Semiconductor, Biotech, Pharmaceutical

Features

Metal to Metal Diaphragm Seal
Low Particle Entrapment
10 Ra or 5 Ra Microinch Internal Surface

Max. Operating Pressure @ 100℉ (38℃)	Temperature		Material			Connection Type	Max. End Connection Size
	Min	Max	S316/316L	VOD	VIM/VAR		
3000 psig (207 bar)	-10℉ (-23℃)	150℉ (65℃)		O	O	ZCR (M), ZCR (F), Butt Weld, Compression Two Ferrule	3/4"

4. QUALITY













Our highly qualified staff works with high speed machines to produce your fittings & valves according to your specifications. A primary focus of Hy-Lok is continuously investing in state-of-the-art machinery according to the latest technology.

Following tests are performed in accordance with bases on customer's requirements or specification.

- Visual Inspection
- Surface Roughness Test
- Helium Leak Test
- Particle Count Test
- Weldability Test
- Valve Life Cycle Test

4. QUALITY

RJ LEE Group Test Report

RJ LeeGroup, Inc.

530 McCormick Street • San Leandro, CA 94577
510/567-0840 • FAX 510/567-0488

May 18, 2006

SH Noh
Hy-Lok Corporation
1467-1, Songjeong-Dong
Kangseo-Gu
Busan, Korea 618-270

RE: RJ Lee Group Project No.: MAC605003
Client Purchase Order No.: 1320

The analytical results for the VCR Gland that you submitted are summarized in the following:

INTRODUCTION
The sample was labeled:

1. C

The sample was submitted for analyses by Auger Electron Spectroscopy (AES), Scanning Electron Microscopy (SEM) and X-ray Photoelectron Spectroscopy (XPS).

EXPERIMENTAL
The methods correspond to SEMATECH Test Methods 91060573B (AES), 90120401B (SEM) and 90120403B (XPS).

AES quantitative atomic percent values were calculated using sensitivity factors for elements or compounds and reflect the concentration that would be present if the components were present in the same form as the standard. These results may have systematic errors and should only be used to compare samples. Two sets of concentration values are presented in Table I. One set was calculated assuming silicon is present in an oxidized form and the other assuming it is present as elemental silicon.

AES etch depths are reported as silicon dioxide equivalent. The reported thickness values represent the thickness that would be present if the layers had the same etch rate as silicon dioxide.

The sample was cut with a hacksaw.

RESULTS
The following observations can be made based on this analysis:

4. QUALITY

RJ LEE Group Test Report

1. The AES analytical results are presented in Spectra 1 – 3 and Tables I and II. The oxide layer thickness (26 angstroms silicon dioxide equivalent) and chromium to iron ratio on the sample is similar to those generally found on electropolished stainless steel.

2. The surface contaminants are characteristic of those generally found on electropolished stainless steel. Various amounts of carbon, nitrogen, sulfur, chlorine, phosphorus and silicon contaminants; elements characteristic of stainless steel (iron, nickel, and chromium); and oxygen were found on the surface of the samples. Phosphorus and nitrogen are common contaminants form the electropolish and passivation steps.

3. The SEM results are presented in Table III and the attached micrographs.

   For the purpose of the analysis, only defects in the finish larger than 0.2 microns (2000 angstroms) were counted.

4. XPS results are presented in Spectra 4 – 5. The Cr-O/Fe-O and total Cr/Fe ratios are listed in Table IV.

Please feel free to contact us should you have any questions regarding this analysis or if we can be of further assistance to you.

Sincerely,

Ben Schiefelbein, Ph.D

BS/sjb

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions and no responsibility is assumed for the manner in which the results are used or interpreted.

4. QUALITY

AES Surface Composition Analysis

SH Noh
Hy-Lok Corporation
MAC605003

Table I
RJ Lee Group Laboratory Results
AES Calculated Surface Composition
Expressed as Atomic Percent

Sample Name		***Sample C[1]***	***Sample C[2]***
Element			
Carbon	*(C)*	*11*	*11*
Chromium	*(Cr)*	*13*	*13*
Iron	*(Fe)*	*20*	*20*
Nickel	*(Ni)*	*6.9*	*6.9*
Oxygen	*(O)*	*46*	*46*
Nitrogen	*(N)*	*0.7*	*0.7*
Chlorine	*(Cl)*	*0.1*	*0.1*
Sulfur	*(S)*	*0.2*	*0.2*
Phosphorus	*(P)*	*1.7*	*1.7*
Silicon	*(Si)*	*0.3*	*~~*
Silicon Oxide	*(Si(O))*	*~~*	*0.5*

[1] *Percentage values were calculated assuming silicon is present as elemental silicon.*

[2] *Percentage values were calculated assuming silicon is present in an oxide form.*

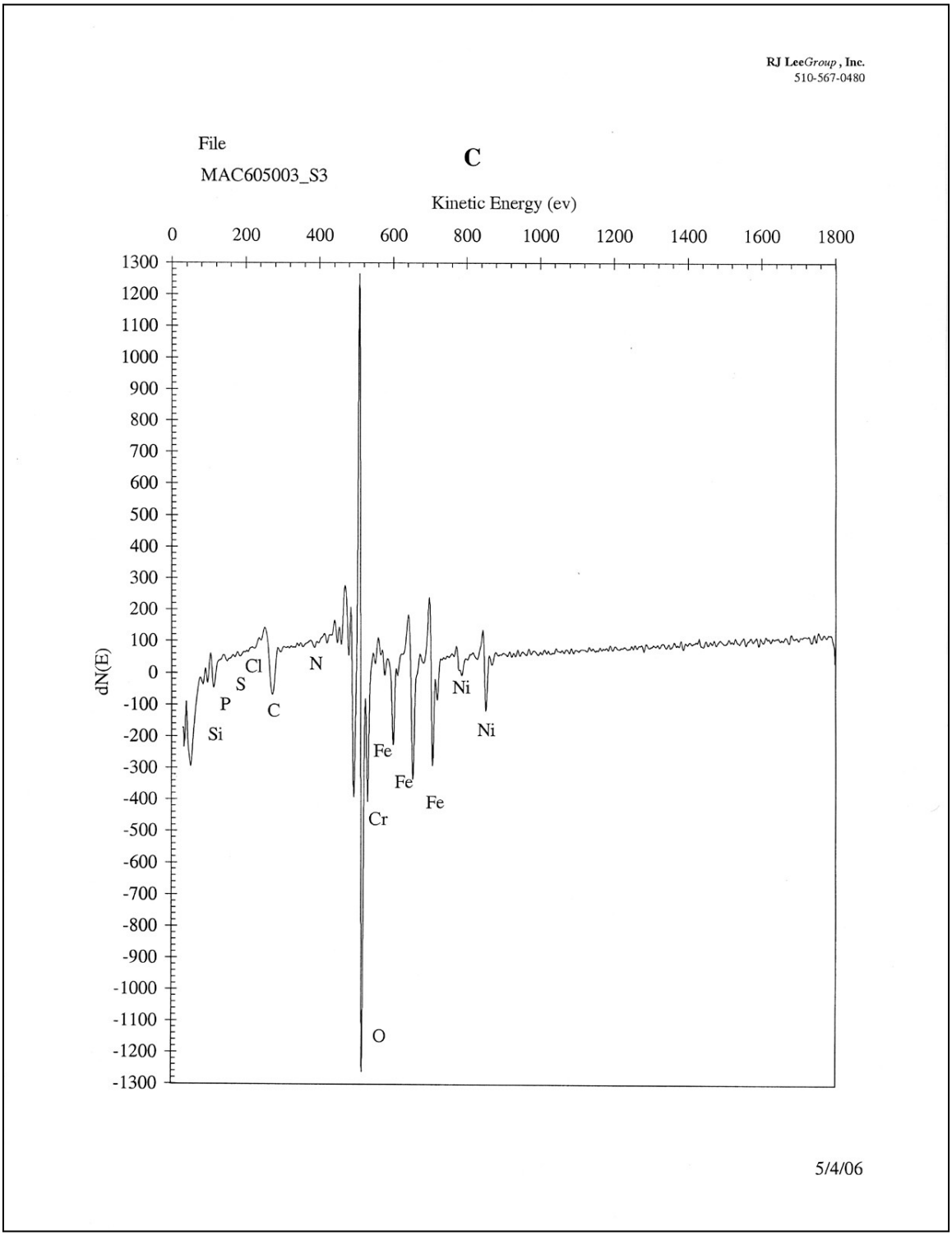
Detection limits for most elements are approximately 0.1 atomic percent. These results are normalized to total one hundred percent.

RJ Lee Group, Inc
530 McCormick Street, San Leandro, CA 94577
Phone: 510-567-0480
Fax: 510-567-0488

Page 1of 1

4. QUALITY

AES Surface Composition Analysis



4. QUALITY

AES Depth Profile Analysis

SH Noh
Hy-Lok Corporation
MAC605003

Table II
RJ Lee Group Laboratory Results
Depth Profile Results

Sample Name		***Sample C***
Oxide Thickness	*(Å)*	*26*
*Corrected Oxide Thickness****	*(Å)*	*23.5*
*Cr/Fe Ratio at 10 Ang.***		*1.5*
Max Cr/Fe Ratio		*1.5*
(Depth Ang.)		*9*
Carbon Layer Thickness	*(Å)*	*2.5*
*Contaminants**		*C, N, P, Si*

Note: '' = Only elements present at concentrations >0.2 atomic percent are listed.*

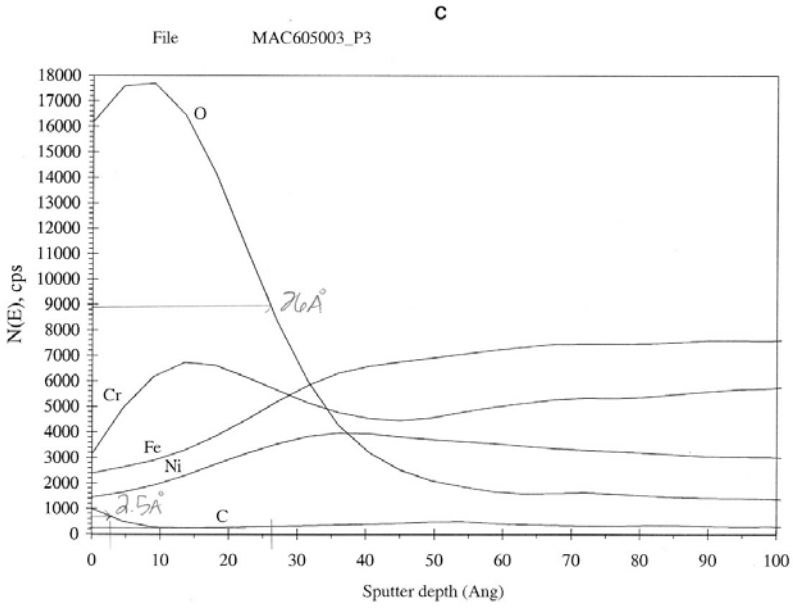
*Note: '**' = Measurements taken at a depth equal to 10 angtroms plus the carbon layer thickness.*

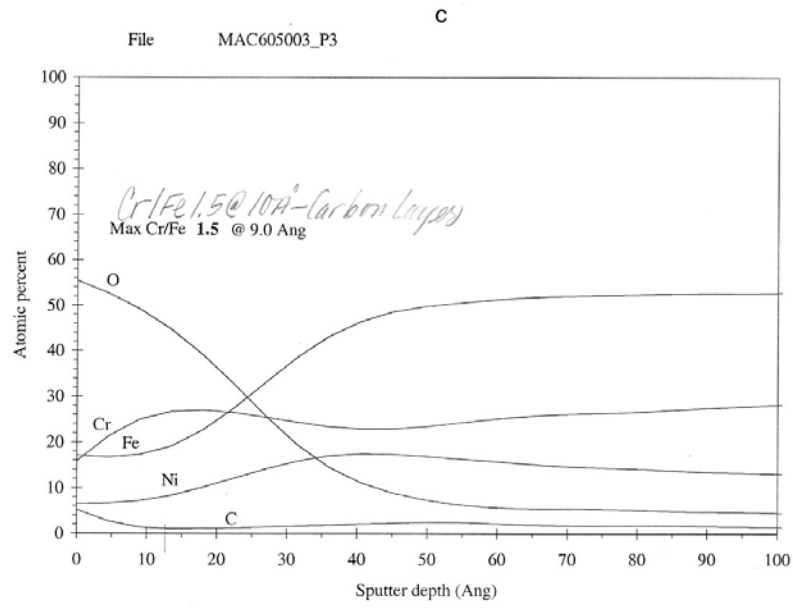
*Note: '***' = Oxide layer corrected for carbon layer thickness.*

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Page 1 of 1
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4. QUALITY

AES Depth Profile Analysis





4. QUALITY

SEM Surface Morphology Analysis

SH Noh
Hy-Lok Corporation
MAC605003

Table III
RJ Lee Group Laboratory Results
Surface Morphology By SEM

Sample Name	***C***
Micrograph Number	
1	*0*
2	*0*
3	*0*
4	*0*
5	*0*
Average Number Per Micrograph	*0.0*
Maximum Number In Any Micrograph	*0*

RJ Lee Group, Inc.
530 McCormick Street, San Leandro, CA 94577
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4. QUALITY

XPS Surface Chemistry Analysis

SH Noh
Hy-Lok Corporation
MAC605003

Table IV
RJ Lee Group Laboratory Results
XPS Results

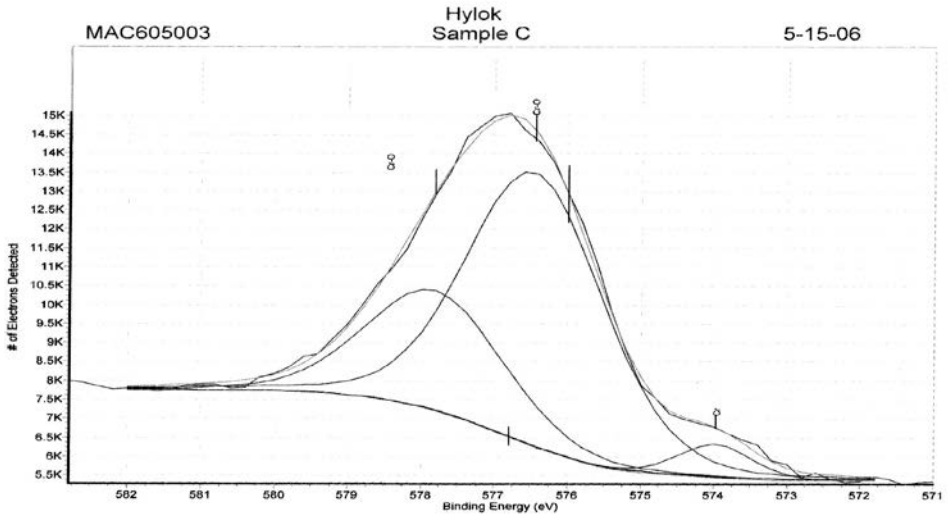
Sample Name	Cr/Fe	CrO/FeO
Sample C	2.3	3.1

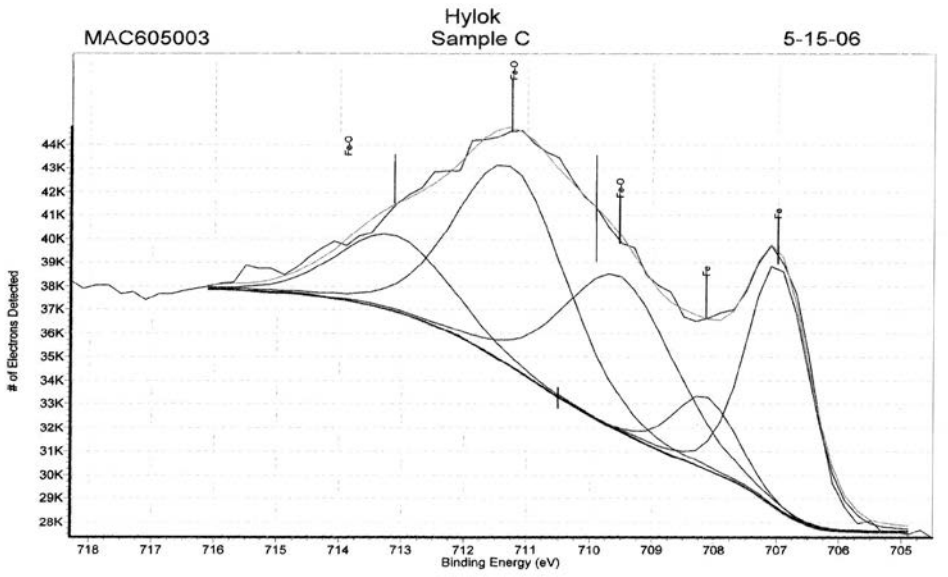
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4. QUALITY

XPS Surface Chemistry Analysis





5. PRINCIPAL SUPPLY RECORDS

SEMICONDUCTOR

COMPANY	PROJECT	SITE	YEAR	PRODUCTS
C S K	SCRUBBER, CHLLER	Korea	2014	ZCR Fitting, Hy-Lok Tube Fitting
Boe-Hydis	B1 Project	Korea	2004	Hy-Lok Tube Fitting, Ball Valve
DMS	DMS Maintenance Project	Korea	2009	Hy-Lok Tube Fitting, Ball Valve
Dongbu Electronics	Dongbu Electronics Bucheon Factory	Korea	2007	Hy-Lok Tube Fitting, Ball Valve
Dongbu Hitec	Dongby Hitec Sangwoo Factory	Korea	2009	Hy-Lok Tube Fitting, Ball Valve
Dongyang Steel	DCC Solar Cell Project	Korea	2008	Hy-Lok Tube Fitting, Ball Valve
EDWARDS	Vacuum Pump Project	Korea	2016	Hy-Lok Tube Fitting
GEM-TECH / TEM-TECH	Semiconductor Gas Cabinet PJT	Korea / Japan	2016	Pressure Transducer
INTEL	A9/T9(Vietnam) ATM Project	Vietnam	2009	Hy-Lok Tube Fitting, Ball Valve , Diaphragm Valve
JUSUNG Eng	Display, Solar Cell	Korea	2014	ZCR Fitting, Hy-Lok Tube Fitting
	Solar sell	Korea	2010	Hy-Lok Tube Fitting, Ball Valve
LG Display	Guangzhou 180K/210K CP, CPS, U/T Project	China	2016	Bellows Valve, Diaphragm Valve
	Paju P8 E42, P9 C-PJT	Korea	2016	Bellows Valve, Diaphragm Valve
	Gumi P6 B-PJT	Korea	2016	Bellows Valve, Diaphragm Valve
	Guangzhou GP2 PH2 CAPA-UP	China	2016	Bellows Valve, Diaphragm Valve
	Guangzhou GP2, GZ PJT	China	2015	Bellows Valve, Diaphragm Valve , ZCR Fitting, Hy-Lok Tube Fitting
	LGD Guangzhou V-PJT	China	2013	Hy-Lok Tube Fitting
	LGD Guangzhou CA PJT	China	2013	Hy-Lok Tube Fitting
	LG DISPLAY P8	Korea	2010	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve , Diaphragm Valve
	LG Philips LCD P8	Korea	2009	Hy-Lok Tube Fitting, Ball Valve , Diaphragm Valve
LG Philips LCD	LG PHILIPS P6	Korea	2009	Hy-Lok Tube Fitting, Ball Valve , Diaphragm Valve
	LG Philips LCD P7	Korea	2005	Hy-Lok Tube Fitting, Ball Valve
	LG Philips LCD P7 (Paju)	Korea	2009	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve , Diaphragm Valve
LOT Vacuum	Vacuum Pump Project	Korea	2010	Hy-Lok Tube Fitting
	Vacuum Pump Project	Korea	2009	Hy-Lok Tube Fitting, Ball Valve , Diaphragm Valve
Magnachip	Line Maintenance	Korea	2010	Hy-Lok Tube Fitting, Ball Valve
Samsung C&T	Hsian M-PJT NAND Flash	China	2016	Hy-Lok Fitting, ZCR Fitting
	Hwaseong 17L FAB Project / Giheung 5L DS-Retrofit HOOK-UP	Korea	2016	Regulator, Diaphragm Valve , ZCR Fitting, Hy-Lok Tube Fitting
	Hsian M-PJT Hook-up (55K)	China	2015	Hy-Lok Fitting, ZCR Fitting
	Hsian M-Project NAND Flash Main & Hook-up	China	2013	Hy-Lok Tube Fitting, ZCR Fitting, Ball Valve , Diaphragm Valve
Samsung LED	LED Line	Korea	2010	Hy-Lok Tube Fitting, Ball Valve
	LED Line	Korea	2009	Hy-Lok Tube Fitting, Ball Valve , Diaphragm Valve
Samsung Display	Tangjeong A3-PJT	Korea	2013	Hy-Lok Tube Fitting, ZCR Fitting, Ball Valve
	Tangjeong 8LINE -Ph2-2	Korea	2010	Hy-Lok Tube Fitting
	Tangjeong Module hook up	Korea	2010	Hy-Lok Tube Fitting
	SEC Tangjeong 8Line	Korea	2007	Hy-Lok Tube Fitting, Ball Valve
	SEC Cheonan Factory	Korea	2007	Hy-Lok Tube Fitting, Ball Valve
	Tangjeong T7 Project	Korea	2004	Hy-Lok Tube Fitting, Ball Valve
Samsung Display Vietnam	Samsung Display Vietnam OLED Panel Module Factory	Vietnam	2016	ZCR Fitting, Hy-Lok Tube Fitting, Ball Valve
	SDV(Samsung Display Vietnam) hook-up	Vietnam	2015	ZCR Fitting, Hy-Lok Tube Fitting, Valve

5. PRINCIPAL SUPPLY RECORDS

SEMICONDUCTOR

COMPANY	PROJECT	SITE	YEAR	PRODUCTS
Samsung / LG Philips LCD	Semi clean Scrubber & Chiller	Korea	2009	Hy-Lok Tube Fitting, Ball Valve , Diaphragm Valve
	Scrubber & Chiller Production Project	Korea	2007	Hy-Lok Tube Fitting, Ball Valve
Samsung Electronics	Pyeongtaek P-PJT	Korea	2016	Regulator, Diaphragm Valve , ZCR Fitting, Hy-Lok Tube Fitting
	Giheung 5L 12" DS Retrofit	Korea	2016	Regulator, Diaphragm Valve , ZCR Fitting, Hy-Lok Tube Fitting
	Giheung 5L Retrofit	Korea	2015	Regulator, Diaphragm Valve , ZCR Fitting, Hy-Lok Tube Fitting
	Hwaseong 17L Hook-up	Korea	2014	Regulator, Diaphragm Valve , ZCR Fitting, Hy-Lok Tube Fitting
	16 Line(Flash) – Project (Hwaseong)	Korea	2012	Diaphragm Valve , ZCR Fitting
	16 Line Hook-Up	Korea	2011	Diaphragm Valve
	16 Line (Flash+CU)	Korea	2011	Diaphragm Valve
	SAMSUNG AUSTIN TEXAS	USA	2010	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve , Diaphragm Valve
	6 ~7 Line Maintenance (Giheung)	Korea	2010	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve , Diaphragm Valve
	S-LINE 40nm Upgrade	Korea	2010	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve , Diaphragm Valve
	15LINE 150K	Korea	2010	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve , Diaphragm Valve
	Hwaseong U1 LINE	Korea	2010	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve , Diaphragm Valve
	12,13LINE M-FAB	Korea	2010	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve , Diaphragm Valve
	15LINE U2	Korea	2010	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve
	Giheung Complex #1 Remodeling	Korea	2010	Hy-Lok Tube Fitting, Ball Valve
	Hwaseong Complex #2 M1B	Korea	2010	Hy-Lok Tube Fitting, Ball Valve
	12 Line, 4Q-2 (Hwaseong)	Korea	2009	Hy-Lok Tube Fitting, Ball Valve , Diaphragm Valve
	13 Line (Hwaseong)	Korea	2009	Hy-Lok Tube Fitting, Ball Valve , Diaphragm Valve
	Hwaseong U2-FAB	Korea	2009	Hy-Lok Tube Fitting, Ball Valve, Diaphragm Valve
	Hwaseong H2 15LINE	Korea	2009	Hy-Lok Tube Fitting, Ball Valve, Diaphragm Valve
	10~13 Line Extension & Maintenance(Hwaseong)	Korea	2006	Hy-Lok Tube Fitting, Ball Valve
	15 Line, A1 – Project (Hwaseong)	Korea	2006	Hy-Lok Tube Fitting, Ball Valve
	EDS Project (Hwaseong)	Korea	2006	Hy-Lok Tube Fitting, Ball Valve
	NDR Lab New Construction (Hwaseong)	Korea	2006	Hy-Lok Tube Fitting, Ball Valve
	1 ~ 5 Line Extension & Maintenance (Giheung)	Korea	2006	Hy-Lok Tube Fitting, Ball Valve
	LCD Line Maintenance (Giheung)	Korea	2006	Hy-Lok Tube Fitting, Ball Valve
	14 Line S,F – Project (Hwaseong)	Korea	2006	Hy-Lok Tube Fitting, Ball Valve
	6 ~ 9 Line Maintenance (Giheung)	Korea	2006	Hy-Lok Tube Fitting, Ball Valve
	F/S Project	Korea	2004	Hy-Lok Tube Fitting, Ball Valve
	Utility FAB Extension Project	Korea	2004	Hy-Lok Tube Fitting, Ball Valve
	13 Line Nano FAB	Korea	2004	Hy-Lok Tube Fitting, Ball Valve
	13 Line 3MM Project	Korea	2004	Hy-Lok Tube Fitting, Ball Valve
	M Project	Korea	2000	Hy-Lok Tube Fitting, Ball Valve
	11 Line Extension Project	Korea	2000	Hy-Lok Tube Fitting, Ball Valve
	9 Line Project	Korea	1999	Hy-Lok Tube Fitting
	LCD Stock	Korea	1999	Hy-Lok Tube Fitting
	C-3Line	Korea	1997	Hy-Lok Tube Fitting
	L3-Project	Korea	1997	Hy-Lok Tube Fitting

5. PRINCIPAL SUPPLY RECORDS

SEMICONDUCTOR

COMPANY	PROJECT	SITE	YEAR	PRODUCTS
Samsung Electronics	NT Line Extension Phase 6	Korea	1996	Hy-Lok Tube Fitting
	Giheung Semiconductor Maintenance	Korea	1996	Hy-Lok Tube Fitting
	Samsung Austin Texas	USA	2005	Hy-Lok Tube Fitting, Ball Valve
SK HYNIX	Icheon M14 PH2 Main	Korea	2016	Bellows Valve, Diaphragm Valve
	Icheon M14 Main & Hook-up PJT	Korea	2015	Bellows Valve, ZCR Fitting, Hy-Lok Tube Fitting
	WUXI C2BC PCW hook-up Project	China	2013	Ball Valve
	Icheon M7B Project	Korea	2012	Hy-Lok Tube Fitting, Ball Valve
	Icheon M10A,B,C HOOK-UP	Korea	2012	Hy-Lok Tube Fitting, Ball Valve
	Icheon M7C CAPA UP	Korea	2011	Hy-Lok Tube Fitting & ZCR Fitting, Ball Valve , Diaphragm Valve
	Cheongju 300M M11 CAPA UP	Korea	2010	Hy-Lok Tube Fitting, BALL Valve, ZCR Fitting
	WUXI C1B Remodeling	China	2010	Hy-Lok Tube Fitting, Ball Valve
	Icheon M10 CAPA UP	Korea	2010	Hy-Lok Tube Fitting, Ball Valve
	Icheon M10 R3 Expansion	Korea	2010	Hy-Lok Tube Fitting, Ball Valve
	Icheon M7A 300mm Remodeling	Korea	2010	Hy-Lok Tube Fitting, Ball Valve
	Cheongju 8,9 Line Maintenance	Korea	2010	Hy-Lok Tube Fitting, Ball Valve
	Cheongju M11 HOOK-UP	Korea	2009	Hy-Lok Tube Fitting, Ball Valve , Diaphragm Valve
	Line Dismantlement, Extension & Maintenance (Icheon)	Korea	2006	Hy-Lok Tube Fitting, Ball Valve
	Wuxi Factory Construction	China	2005	Hy-Lok Tube Fitting, Ball Valve
	3MM Project	Korea	2004	Hy-Lok Tube Fitting, Ball Valve
	Utility FAB Extension Project	Korea	2004	Hy-Lok Tube Fitting, Ball Valve
	Package Test House	Korea	2000	Hy-Lok Tube Fitting, Ball Valve
	FAB5 Project	Korea	2000	Hy-Lok Tube Fitting, Ball Valve
	FAB3 Project	Korea	1999	Hy-Lok Tube Fitting
	3 Line Project	Korea	1996	Hy-Lok Tube Fitting
	Fab7 Project	Korea	1996	Hy-Lok Tube Fitting
	Mask Project	Korea	1996	Hy-Lok Tube Fitting
	Package Test House	Korea	1996	Hy-Lok Tube Fitting
	LCD Project	Korea	1995	Hy-Lok Tube Fitting
	E-3 Project	Korea	1995	Hy-Lok Tube Fitting
	E-2 Project	Korea	1995	Hy-Lok Tube Fitting
SSL	SSL(Samsung Suzhou LCD) Hook-up	China	2015	ZCR Fitting, Hy-Lok Tube Fitting, Valve
Taehwa Electron	Taehwa Electron Maintenance	Korea	2009	Hy-Lok Tube Fitting, Ball Valve

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