

Materials List for:

# Measurement of Outgassing Rates of Steels

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## Materials

Name	Company	Catalog Number	Comments
<b>Sample chamber</b>			
Stainless steel, 304	POSCO ( <a href="http://www.posco.co.kr">www.posco.co.kr</a> )		
Mild steel, D3752	Xiangtan Iron&Steel co.,LTD ( <a href="http://www.hnxc.com">http://www.hnxc.com</a> )		
Mild steel, D3752	SeAh Besteel ( <a href="http://www.seahbesteel.co.kr">www.seahbesteel.co.kr</a> )		
<b>Name</b>			
<b>Company</b>			
<b>Catalog Number</b>			
<b>Comments</b>			
<b>Cleaning</b>			
Cleaning bath	Samill IDS		Ultrasonic cleaning, heating, timer, concentration control
Acetone	Samchun Chemical ( <a href="http://www.samchun.com">www.samchun.com</a> )	A1759	HPLC grade (99.7%)
Tekusolv	NCH Co. ( <a href="http://www.nch.com">www.nch.com</a> )	0368-0058J	Solvents
BN cleaner	Henkel surface technologies ( <a href="http://na.henkel-adhesives.com">na.henkel-adhesives.com</a> )	6610263775	Alkaline, pH 13
Ethanol	Fisher Scientific ( <a href="http://www.fishersci.com">www.fishersci.com</a> )	A995-4	HPLC Reagent (99.9%)
Deionized water (Electro deionizer SYSTEM)	A.T.A ( <a href="http://www.atagroup.co">www.atagroup.co</a> )	EDI SYSTEM	
Liquid N <sub>2</sub> gas	Hanyoung ( <a href="http://www.gasmaster.co.kr">www.gasmaster.co.kr</a> )	B/T 176 L	LN <sub>2</sub> dewar, purity 99.999%
<b>Name</b>			
<b>Company</b>			
<b>Catalog Number</b>			
<b>Comments</b>			
<b>Welding</b>			
Tungsten Inert Gas welding machine	Thermal Arc ( <a href="http://www.victortechnologies.com/thermalarc">www.victortechnologies.com/thermalarc</a> )	400GTSW	Ar gas preflow and postflow 8 L/min, backflow 5 L/min
turning jig	Vactron ( <a href="http://www.vactron.co.kr">www.vactron.co.kr</a> )	Made to order	Made to order
Ar gas	Lindekorea ( <a href="http://www.lindekorea.com">www.lindekorea.com</a> )		Purity 99.999%
<b>Name</b>			
<b>Company</b>			
<b>Catalog Number</b>			
<b>Comments</b>			
<b>Leak test</b>			
Leak detector	Adixen ( <a href="http://www.adixen.fr/en/">www.adixen.fr/en/</a> )	ASM380	Pumping Speed (air): 9.7 L/sec
He gas	Lindekorea ( <a href="http://www.lindekorea.com">www.lindekorea.com</a> )		Purity 99.999%
<b>Name</b>			
<b>Company</b>			
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<b>Vacuum equipment</b>			
Spinning rotor gauge	MKS Instruments ( <a href="http://www.mks.com">www.mks.com</a> )	SRG-3	Controller, head, and thimble set
Oscilloscope	Tektronix ( <a href="http://www.tek.com">www.tek.com</a> )	TDS2012B	

Residual gas analyser	Balzers	QMA200	m/e 0-100
TMP (HiPace 80)	Pfeiffer Vacuum ( <a href="http://www.pfeiffer-vacuum.com">www.pfeiffer-vacuum.com</a> )	PMP03941	Pumping Speed (N <sub>2</sub> ): 67 L/sec
Scroll pump	Anest Iwata ( <a href="http://www.anest-iwata.co.jp">www.anest-iwata.co.jp</a> )	ISP 90	Pumping Speed (Air): 1.8 L/sec
All-metall easy close angle valve (CF35)	VAT Inc. ( <a href="http://www.vatvalve.com">www.vatvalve.com</a> )	54032-GE02-0002	Rotatable flange
Angle valve (KF25)	MDC Vacuum Inc. ( <a href="http://www.mdcvacuum.com">www.mdcvacuum.com</a> )	KAV-100	
<b>Name</b>	<b>Company</b>	<b>Catalog Number</b>	<b>Comments</b>
<b>Temperature control</b>			
Chiller	JEIO Tech ( <a href="http://www.jeiotech.com">www.jeiotech.com</a> )	RW-2025G	
Cooling line	LS Metal ( <a href="http://www.lsmetal.biz">www.lsmetal.biz</a> )	C1100	Level Wound Coil, Diameter 10 mm
Heater controllers	HMT	Made to order	Bakeout program controller
Electrical heater tapes	Brisk heat ( <a href="http://www.briskheat.com">www.briskheat.com</a> )	BIH101080L	
Thermocouple (K type)	miraesensor ( <a href="http://www.miraesensor.com">www.miraesensor.com</a> )	MR-2290	
Handheld multimeter	Saehan ( <a href="http://www.saehan.co.kr">www.saehan.co.kr</a> )	3234	
Data recorder (Temp.)	Yokogawa ( <a href="http://www.yokogawa.com">www.yokogawa.com</a> )	GP10-1E1F-UC10	