ETRI 반도체실험실 공정 단가표

Semiconductor Fabrication Service Price List

개정번호 : V3.0

유효기간 : 2026.01.01. ~ 2026.12.31.

발행부서 : ETRI 반도체소부장기술센터

Contact : jmku7@etri.re.kr

ETRI 반도체실험실 공정 단가표

V3.0

분류	공정명	장비코드	단위	공정단가 (단위:원)
DIFFUSION	Alloy	FN11	BATCH	200,000
	Anneal (Time≤1hr)	FN12/13/14/22/23	BATCH	200,000
	Anneal (1hr<Time≤3hr)	FN12/13/14/22/23	BATCH	308,000
	Anneal (3hr<Time≤5hr)	FN12/13/14/22/23	BATCH	400,000
	Anneal (5hr<Time≤7hr)	FN12/13/14/22/23	BATCH	495,000
	Anneal (7hr<Time≤10hr)	FN12/13/14/22/23	BATCH	576,000
	Drive in (Time≤1hr)	FN22	BATCH	200,000
	Drive in (1hr<Time≤3hr)	FN22	BATCH	308,000
	Drive in (3hr<Time≤5hr)	FN22	BATCH	400,000
	Drive in (5hr<Time≤7hr)	FN22	BATCH	495,000
	Drive in (7hr<Time≤10hr)	FN22	BATCH	576,000
	Drive-In(>2hr) & Oxidation(<5000A)	FN12/13/22/23	BATCH	874,000
	Drive-In(>2hr) & Oxidation(≥5000A)	FN12/13/22/23	BATCH	1,125,000
	Drive-In(>2hr) N2 & Oxidation(<5000A)	FN22	BATCH	874,000
	Drive-In(>2hr) N2 & Oxidation(≥5000A)	FN22	BATCH	1,125,000
	Drive-In(≤2hr) & Oxidation(<5000A)	FN12/13/22/23	BATCH	749,000
	Drive-In(≤2hr) & Oxidation(≥5000A)	FN12/13/22/23	BATCH	999,000
	Drive-In(≤2hr) N2 & Oxidation(<5000A)	FN22	BATCH	749,000
	Drive-In(≤2hr) N2 & Oxidation(≥5000A)	FN22	BATCH	999,000
	High Current Ion Implantation#2. As	IM02	BATCH	801,000
	High Current Ion Implantation#2. B11	IM02	BATCH	801,000
	High Current Ion Implantation#2. BF2	IM02	BATCH	801,000
	High Current Ion Implantation#2. P	IM02	BATCH	801,000
	Medium Current Ion Implantation#3. 11B+	IM03	WAFER	107,000
	Medium Current Ion Implantation#3. 31P+	IM03	WAFER	107,000
	Medium Current Ion Implantation#3. 49BF2+	IM03	WAFER	107,000
	Medium Current Ion Implantation#3. 75As+	IM03	WAFER	107,000
	Medium Current Ion Implantation#3. 27Al+	IM03	WAFER	800,000
	Oxidation (T≤1000A)	FN12/13/14/22/23	BATCH	334,000
	Oxidation (1000<T≤5000A)	FN12/13/14/22/23	BATCH	468,000
	Oxidation (5000<T≤10000A)	FN12/13/14/22/23	BATCH	668,000
	Oxidation(<5000A) & Drive-In(>2hr)	FN12/13/22/23	BATCH	874,000
	Oxidation(<5000A) & Drive-In(≤2hr)	FN12/13/22/23	BATCH	749,000
	Oxidation(≥5000A) & Drive-In(>2hr)	FN12/13/22/23	BATCH	1,125,000
	Oxidation(≥5000A) & Drive-In(≤2hr)	FN12/13/22/23	BATCH	999,000
	POCl3 Doping	FN21	BATCH	334,000
	RTP. Anneal. Ar (max 950도, max 5min)	RT01	WAFER	79,000
	RTP. Anneal. N2 (max 950도, max 5min)	RT01	WAFER	79,000
	SOG Curing	FN11	BATCH	200,000

ETRI 반도체실험실 공정 단가표

V3.0

분류	공정명	장비코드	단위	공정단가 (단위:원)
ETCH	Dry Etch. Al2O3 (T≤3000A)	DR05_B	WAFER	79,000
	Dry Etch. Al2O3 (3000<T≤7000A)	DR05_B	WAFER	121,000
	Dry Etch. Al2O3 (7000A<T≤15000A)	DR05_B	WAFER	146,000
	Dry Etch. AlSi (T≤10000A)	DR05_B/DR06_A	WAFER	79,000
	Dry Etch. AlSi (T>20000A)	DR05_B/DR06_A	WAFER	146,000
	Dry Etch. AlSi (10000<T≤20000A)	DR05_B/DR06_A	WAFER	121,000
	Dry Etch. AlSi/TiW(Thick metal) (연속공정)	DR06_A	WAFER	304,000
	Dry Etch. AlSi/TiW(Thick MG08) (연속공정)	DR06_A	WAFER	304,000
	Dry Etch. AlSi/TiW(Thin metal) (연속공정)	DR06_A	WAFER	133,000
	Dry Etch. Cr (T≤1000A)	DR05_B	WAFER	79,000
	Dry Etch. Cr (1000<T≤3000A)	DR05_B	WAFER	121,000
	Dry Etch. Cr seasoning	DR05_B	WAFER	79,000
	Dry Etch. InTiO2 (T≤3000A)	DR05_B	WAFER	79,000
	Dry Etch. InTiO2 (3000<T≤7000A)	DR05_B	WAFER	121,000
	Dry Etch. InTiO2 (7000A<T≤15000A)	DR05_B	WAFER	146,000
	Dry Etch. ITO1 (T≤3000A)	DR05_B	WAFER	79,000
	Dry Etch. ITO1 (3000<T≤7000A)	DR05_B	WAFER	121,000
	Dry Etch. ITO1 (7000A<T≤15000A)	DR05_B	WAFER	146,000
	Dry Etch. ITO2 (T≤3000A)	DR05_B	WAFER	79,000
	Dry Etch. ITO2 (3000<T≤7000A)	DR05_B	WAFER	121,000
	Dry Etch. ITO2 (7000A<T≤15000A)	DR05_B	WAFER	146,000
	Dry Etch. ITO5 (T≤3000A)	DR05_B	WAFER	79,000
	Dry Etch. Mo	DR05_B	WAFER	159,000
	Dry Etch. Nitride (T≤2000A)	DR05_B/DR06_B	WAFER	79,000
	Dry Etch. Nitride (2000<T≤3000A)	DR05_B/DR06_B	WAFER	121,000
	Dry Etch. Nitride (3000<T≤7000A)	DR05_B/DR06_B	WAFER	146,000
	Dry Etch. Nitride(High E/R) (T≤2000A)	DR03_A	WAFER	79,000
	Dry Etch. Nitride(High E/R) (2000<T≤3000A)	DR03_A	WAFER	121,000
	Dry Etch. Nitride(High E/R) (3000<T≤7000A)	DR03_A	WAFER	146,000
	Dry Etch. Nitride(low E/R) (T≤2000A)	DR03_A	WAFER	79,000
	Dry Etch. Nitride(low E/R) (2000<T≤3000A)	DR03_A	WAFER	121,000
	Dry Etch. Nitride(low E/R) (3000<T≤7000A)	DR03_A	WAFER	146,000
	Dry Etch. Oxide (T≤3000A)	DR03_A/DR05_B/DR06_B	WAFER	79,000
	Dry Etch. Oxide (3000<T≤7000A)	DR03_A/DR05_B/DR06_B	WAFER	121,000
	Dry Etch. Oxide (7000A<T≤15000A)	DR03_A/DR05_B/DR06_B	WAFER	146,000
	Dry Etch. Oxynitride (T≤2000A)	DR03_A/DR06_B	WAFER	79,000
	Dry Etch. Oxynitride (2000<T≤3000A)	DR03_A/DR06_B	WAFER	121,000
	Dry Etch. Oxynitride (3000<T≤7000A)	DR03_A/DR06_B	WAFER	146,000

ETRI 반도체실험실 공정 단가표

V3.0

분류	공정명	장비코드	단위	공정단가 (단위:원)
ETCH	Dry Etch. Poly Si (T≤3000A)	DR03_B/DR06_A	WAFER	79,000
	Dry Etch. Poly Si (3000<T≤7000A)	DR03_B/DR06_A	WAFER	121,000
	Dry Etch. Poly Si (7000<T≤10000A)	DR03_B/DR06_A	WAFER	146,000
	Dry Etch. Poly Si and Si (T≤3000A)	DR03_B	WAFER	79,000
	Dry Etch. Poly Si and Si (3000<T≤7000A)	DR03_B	WAFER	121,000
	Dry Etch. Poly Si and Si (7000<T≤10000A)	DR03_B	WAFER	146,000
	Dry Etch. Poly Si/Ge (T≤3000A)	DR03_B	WAFER	79,000
	Dry Etch. Poly Si/Ge (3000<T≤7000A)	DR03_B	WAFER	121,000
	Dry Etch. Poly Si/Ge (7000<T≤10000A)	DR03_B	WAFER	146,000
	Dry Etch. Poly(N+) Si (T≤3000A)	DR03_B	WAFER	79,000
	Dry Etch. Poly(N+) Si (3000<T≤7000A)	DR03_B	WAFER	121,000
	Dry Etch. Poly(N+) Si (7000<T≤10000A)	DR03_B	WAFER	146,000
	Dry Etch. Polyimide	DR06_B	WAFER	79,000
	Dry Etch. Si residue remove	DR06_A	WAFER	79,000
	Dry Etch. Silicon (T≤3000A)	DR03_B/DR06_A	WAFER	92,000
	Dry Etch. Silicon (3000<T≤7000A)	DR03_B/DR06_A	WAFER	121,000
	Dry Etch. Silicon (7000<T≤10000A)	DR03_B/DR06_A	WAFER	146,000
	Dry Etch. Silicon (10000<T≤25000A)	DR03_B/DR06_A	WAFER	175,000
	Dry Etch. Silicon(BLDC deep용)	DR03_B	WAFER	303,000
	Dry Etch. Silicon(BLDC용 R2 6um)	DR03_B	WAFER	303,000
	Dry Etch. Silicon(BLDC용 R2)	DR03_B	WAFER	303,000
	Dry Etch. SOG Etch-Back (T≤3000A)	DR06_B	WAFER	79,000
	Dry Etch. SOG Etch-Back (3000<T≤7000A)	DR06_B	WAFER	121,000
	Dry Etch. SOG Etch-Back (7000A<T≤15000A)	DR06_B	WAFER	146,000
	Dry Etch. TiN (T≤1000A)	DR06_A	WAFER	79,000
	Dry Etch. TiN/AlSi/Ti/TiN/Ti (연속공정)	DR06_A	WAFER	133,000
	Dry Etch. TiN/AlSi/TiN/Ti (연속공정)	DR06_A	WAFER	133,000
	Dry Etch. TiW (T≤1000A)	DR03_B/DR06_A	WAFER	79,000
	Dry Etch. TiW/AlSi/TiW (연속공정)	DR06_A	WAFER	133,000
	HDP Dry Etch. Oxide (T≤3000A)	DR09_C	WAFER	79,000
	HDP Dry Etch. Oxide (3000<T≤7000A)	DR09_C	WAFER	121,000
	HDP Dry Etch. Oxide (7000A<T≤15000A)	DR09_C	WAFER	146,000
	HDP Dry Etch. Nitride (T≤2000A)	DR09_C	WAFER	79,000
	HDP Dry Etch. Nitride (2000<T≤3000A)	DR09_C	WAFER	121,000
	HDP Dry Etch. Nitride (3000<T≤7000A)	DR09_C	WAFER	146,000
	HDP Dry Etch. Poly Si (T≤3000A)	DR09_A	WAFER	79,000
	HDP Dry Etch. Poly Si (3000<T≤7000A)	DR09_A	WAFER	121,000
	HDP Dry Etch. Poly Si (7000<T≤10000A)	DR09_A	WAFER	146,000
	HDP Dry Etch. Silicon (T≤5000A)	DR09_B	WAFER	130,000
	HDP Dry Etch. Silicon (5000<T≤10000A)	DR09_B	WAFER	170,000
	HDP Dry Etch. Silicon (10000<T≤30000A)	DR09_B	WAFER	200,000
	HDP Dry Etch. Silicon (30000<T≤50000A)	DR09_B	WAFER	300,000
	HDP Dry Etch. Silicon (50000<T≤100000A)	DR09_B	WAFER	400,000
	HDP Dry Etch. Silicon (100000<T≤150000A)	DR09_B	WAFER	500,000
	PR Descum. Plasma	PS01/PS03	BATCH	79,000
	PR Strip. Plasma	PS01/PS03	BATCH	79,000
	PR Strip. μ-wave	DR05_D/DR06_C/PS02_PM1	WAFER	13,000
	PR Strip. μ-wave / RF	PS02_PM2	WAFER	13,000
	PR Strip. μ-wave(Oxide)	PS02_PM1	WAFER	13,000

ETRI 반도체실험실 공정 단가표

V3.0

분류	공정명	장비코드	단위	공정단가 (단위:원)
METAL	E-beam evaporator. Ag (100<T≤5000A)	EB01	BATCH	200,000
	E-beam evaporator. Ag (5000<T≤10000A)	EB01	BATCH	268,000
	E-beam evaporator. Al (100<T≤1000A)	EB01	BATCH	133,000
	E-beam evaporator. Al (1000<T≤3000A)	EB01	BATCH	159,000
	E-beam evaporator. Al/Ni/Ag (연속공정)	EB01	BATCH	467,000
	E-beam evaporator. Ni (100<T≤1000A)	EB01	BATCH	133,000
	E-beam evaporator. Ni (1000<T≤3000A)	EB01	BATCH	159,000
	E-beam evaporator. Ti (100<T≤1000A)	EB01	BATCH	133,000
	E-beam evaporator. Ti (1000<T≤3000A)	EB01	BATCH	159,000
	E-beam evaporator. Ti/Ni/Ag (연속공정)	EB01	BATCH	467,000
	Sputter. Al1%Si (T≤5000A)	SP01_C/SP02_A3/SP03_C	WAFER	55,000
	Sputter. Al1%Si (5000<T≤10000A)	SP01_C/SP02_A3/SP03_C	WAFER	79,000
	Sputter. Al1%Si (10000<T≤20000A)	SP01_C/SP02_A3/SP03_C	WAFER	108,000
	Sputter. Al1%Si / TiN (연속공정)	SP02_A3	WAFER	108,000
	Sputter. Mo	SP01_B	WAFER	92,000
	Sputter. Mo-Al (연속공정 아님)	SP01_B	WAFER	118,000
	Sputter. Mo-Al-Mo (연속공정 아님)	SP01_B	WAFER	177,000
	Sputter. Ni (T≤500A)	SP01_C	WAFER	55,000
	Sputter. Ni (500<T≤1000A)	SP01_C	WAFER	79,000
	Sputter. Ni (1000<T≤3000A)	SP01_C	WAFER	108,000
	Sputter. RF Clean / Al1%Si (T≤5000A)	SP02_A3	WAFER	55,000
	Sputter. RF Clean / Al1%Si (5000<T≤10000A)	SP02_A3	WAFER	79,000
	Sputter. RF Clean / Al1%Si (10000<T≤20000A)	SP02_A3	WAFER	108,000
	Sputter. RF Clean / Ti (T≤500A)	SP02_A5	WAFER	55,000
	Sputter. RF Clean / Ti (500<T≤1000A)	SP02_A5	WAFER	79,000
	Sputter. RF Clean / Ti (1000<T≤3000A)	SP02_A5	WAFER	108,000
	Sputter. RF Clean / TiN (T≤500A)	SP02_A5	WAFER	55,000
	Sputter. RF Clean / TiN (500<T≤1000A)	SP02_A5	WAFER	79,000
	Sputter. RF Clean / TiN (1000<T≤3000A)	SP02_A5	WAFER	108,000
	Sputter. RF Clean /Ti/TiN/Alloy (연속공정)	SP02_A5	WAFER	242,000
	Sputter. RF Clean/Ti/Al1%Si/TiN (연속공정)	SP02_A5	WAFER	187,000
	Sputter. Ti (T≤500A)	SP02_A5	WAFER	55,000
	Sputter. Ti (500<T≤1000A)	SP02_A5	WAFER	79,000
	Sputter. Ti (1000<T≤3000A)	SP02_A5	WAFER	108,000
	Sputter. Ti / Al1%Si / TiN (연속공정)	SP02_A5	WAFER	163,000
	Sputter. TiN (1000<T≤3000A)	SP02_A5	WAFER	108,000
	Sputter. TiN (1000<T≤3000A) / Alloy (연속공정)	SP02_A5	WAFER	187,000
	Sputter. TiN (500<T≤1000A)	SP02_A5	WAFER	79,000
	Sputter. TiN (500<T≤1000A) / Alloy (연속공정)	SP02_A5	WAFER	157,000
	Sputter. TiN (T≤500A)	SP02_A5	WAFER	55,000
	Sputter. TiN (T≤500A) / Alloy (연속공정)	SP02_A5	WAFER	133,000
	Sputter. TiW (T≤3000A)	SP01_B/SP03_B	WAFER	67,000
	Sputter. TiW (3000<T≤5000A)	SP01_B/SP03_B	WAFER	79,000

ETRI 반도체실험실 공정 단가표

V3.0

분류	공정명	장비코드	단위	공정단가 (단위:원)
PHOTO	CEL.Removal(TEL)	TR01	WAFER	35,000
	Contact Aligner	CA01	WAFER	35,000
	EBR Only(TEL)	TR01/TR03	WAFER	19,000
	Exposure. i-line(11D)	ST02	WAFER	35,000
	Exposure. i-line(12D)	ST03	WAFER	35,000
	Exposure. i-line_ with shrinc	ST03	WAFER	35,000
	Exposure. Projection	PA01	WAFER	35,000
	Hard Bake. <120°C	OV01	BATCH	25,000
	Hard Bake. 120°C	OV02	BATCH	25,000
	HMDS Only(TEL)	TR01/TR03	WAFER	19,000
	HMDS/Coat/Bake. AZ5214_1.5㎛	TR01/TR03	WAFER	35,000
	HMDS/Coat/Bake. GA2_1.63㎛	TR01/TR03	WAFER	25,000
	HMDS/Coat/Bake. GA2_2.0㎛	TR01/TR03	WAFER	25,000
	HMDS/Coat/Bake. GA2_2.3㎛	TR01/TR03	WAFER	25,000
	HMDS/Coat/Bake. GA2_3.0㎛	TR01/TR03	WAFER	25,000
	HMDS/Coat/Bake. Manual	TR01/TR03	WAFER	35,000
	HMDS/Coat/Bake. PFi38A_0.82㎛	TR01/TR03	WAFER	25,000
	HMDS/Coat/Bake. PFi38A_1.03㎛	TR01/TR03	WAFER	25,000
	HMDS/Coat/Bake. PFi38A_1.23㎛	TR01/TR03	WAFER	25,000
	Hot Plate. Bake(TEL)	TR01/TR03	WAFER	19,000
	PEB/Develop. Spray(TEL)	TR01/TR03	WAFER	25,000
	PEB/Develop. Stream(TEL)	TR01/TR03	WAFER	25,000
	Polymer Removal(TEL)	TR01/TR03	WAFER	25,000
	SOG. Coat & Bake 211(175 C)	SC01	WAFER	268,000
	SOG. Coat & Bake 211(250 C)	SC01	WAFER	268,000

ETRI 반도체실험실 공정 단가표

V3.0

분류	공정명	장비코드	단위	공정단가 (단위:원)
ThinFilm	LPCVD. a-Si (T≤5000A)	LP32	BATCH	400,000
	LPCVD. a-Si (5000<T≤10000A)	LP32	BATCH	468,000
	LPCVD. a-Si (10000<T≤15000A)	LP32	BATCH	534,000
	LPCVD. D-Poly Si (T≤5000A)	LP32	BATCH	400,000
	LPCVD. D-Poly Si (5000<T≤10000A)	LP32	BATCH	468,000
	LPCVD. D-Poly Si (10000<T≤15000A)	LP32	BATCH	534,000
	LPCVD. HTO (T≤1000A)	LP24	BATCH	400,000
	LPCVD. HTO (1000<T≤3000A)	LP24	BATCH	468,000
	LPCVD. LS-Nitride (T≤1000A)	LP33	BATCH	334,000
	LPCVD. LS-Nitride (1000<T≤3000A)	LP33	BATCH	376,000
	LPCVD. LS-Nitride (3000<T≤5000A)	LP33	BATCH	468,000
	LPCVD. LS-Nitride_v4 (T≤1000A)	LP33	BATCH	334,000
	LPCVD. LS-Nitride_v4 (1000<T≤3000A)	LP33	BATCH	376,000
	LPCVD. LS-Nitride_v4 (3000<T≤5000A)	LP33	BATCH	468,000
	LPCVD. LTO (T≤5000A)	LP31	BATCH	400,000
	LPCVD. LTO (5000<T≤10000A)	LP31	BATCH	468,000
	LPCVD. LTO (10000<T≤15000A)	LP31	BATCH	534,000
	LPCVD. Nitride (T≤1000A)	LP33	BATCH	334,000
	LPCVD. Nitride (1000<T≤3000A)	LP33	BATCH	376,000
	LPCVD. Nitride (3000<T≤5000A)	LP33	BATCH	468,000
	LPCVD. Poly Si (T≤5000A)	LP32	BATCH	400,000
	LPCVD. Poly Si (5000<T≤10000A)	LP32	BATCH	468,000
	LPCVD. Poly Si (10000<T≤15000A)	LP32	BATCH	534,000
	LPCVD. SiON (T≤1000A)	LP24	BATCH	400,000
	LPCVD. SiON (1000<T≤3000A)	LP24	BATCH	468,000
	LPCVD. TEOS (T≤5000A)	LP34	BATCH	334,000
	LPCVD. TEOS (5000<T≤10000A)	LP34	BATCH	400,000
	LPCVD. TEOS (10000<T≤15000A)	LP34	BATCH	468,000
	PECVD. Ge Oxide (T≤5000A)	PE05_A	WAFER	108,000
	PECVD. Ge Oxide (5000<T≤10000A)	PE05_A	WAFER	133,000
	PECVD. Ge Oxide (10000<T≤15000A)	PE05_A	WAFER	159,000
	PECVD. Nitride (T≤5000A)	PE02_C/PE05_A	WAFER	79,000
	PECVD. Nitride (5000<T≤10000A)	PE02_C/PE05_A	WAFER	108,000
	PECVD. Nitride (10000<T≤15000A)	PE02_C/PE05_A	WAFER	133,000
	PECVD. Oxide (T≤5000A)	PE02_A/PE05_A	WAFER	79,000
	PECVD. Oxide (5000<T≤10000A)	PE02_A/PE05_A	WAFER	108,000
	PECVD. Oxide (10000<T≤15000A)	PE02_A/PE05_A	WAFER	133,000
	PECVD. Oxynitride (T≤5000A)	PE02_C	WAFER	79,000
	PECVD. Oxynitride (5000<T≤10000A)	PE02_C	WAFER	108,000
	PECVD. TEOS (T≤5000A)	PE02_B	WAFER	79,000
	PECVD. TEOS (5000<T≤10000A)	PE02_B	WAFER	108,000
	PECVD. TEOS (10000<T≤15000A)	PE02_B	WAFER	133,000
	SACVD. BPSG(T≤5000A)	PE02_B	WAFER	108,000
	SACVD. BPSG(5000<T≤10000A)	PE02_B	WAFER	133,000
	SACVD. BPSG(10000<T≤15000A)	PE02_B	WAFER	159,000

ETRI 반도체실험실 공정 단가표

V3.0

분류	공정명	장비코드	단위	공정단가 (단위:원)
Wet-Station	Cleaning. 100:1 HF	WT03_B3/WT04_B3/WT06	BATCH	79,000
	Cleaning. 50:1 BHF	WT04_B4/WT05_B4	BATCH	79,000
	Cleaning. Cold DI	WT01_D1/D2/WT03_D1/WT04_D1/WT06	BATCH	67,000
	Cleaning. Cold DI(metal)	WT05_D1	BATCH	67,000
	Cleaning. Cold DI(non metal)	WT05_D2	BATCH	67,000
	Cleaning. H2SO4	WT03_B1/WT04_B1/WT05_B2	BATCH	79,000
	Cleaning. SC1	WT03_B1/WT04_B1/WT06	BATCH	79,000
	Cleaning. SC1. Sonic	WT03_B2/WT04_B2	BATCH	79,000
	Cleaning. SC3 (No HF)	WT03_B2/WT04_B2	BATCH	79,000
	Cleaning. STD	WT03_B1/WT04_B1	BATCH	79,000
	Cleaning. STD3	WT03_B1/WT04_B1	BATCH	79,000
	Nitride strip. H3PO4	WT02_B1	BATCH	200,000
	PR Develop. Wet	WT01_B3	BATCH	133,000
	PR Strip. Acid	WT02_B2	BATCH	79,000
	PR Strip. Acid 100:1 HF	WT02_B2	BATCH	79,000
	PR Strip. Solvent(metal)	WT01_B1	BATCH	133,000
	PR Strip. Solvent(metal)_265	WT01_B1	BATCH	133,000
	PR Strip. Solvent(non metal)	WT01_B2	BATCH	133,000
	Wet etch. Al	WT05_B3	BATCH	200,000
	Wet etch. BPSG BHF (No PR, B3, LAL1000)	WT02_B3/WT02_B5	BATCH	79,000
	Wet etch. BPSG BHF (with PR, B5, 7:1BHF)	WT02_B5	BATCH	79,000
	Wet etch. Deglaze PSG BHF	WT02_B3	BATCH	79,000
	Wet etch. LTO BHF (No PR, B3, LAL1000)	WT02_B3/WT02_B5	BATCH	79,000
	Wet etch. LTO BHF (with PR, B5, 7:1BHF)	WT02_B5	BATCH	79,000
	Wet etch. Oxide 100:1 HF	WT02_B4	BATCH	79,000
	Wet etch. Oxide BHF	WT05_B1	BATCH	79,000
	Wet etch. TEOS BHF (No PR, B3, LAL1000)	WT02_B3/WT02_B5	BATCH	79,000
	Wet etch. TEOS BHF (with PR, B5, 7:1BHF)	WT02_B5	BATCH	79,000
	Wet etch. Thermal Oxide BHF (No PR, B3, LAL1000)	WT02_B3/WT02_B5	BATCH	79,000
	Wet etch. Thermal Oxide BHF (with PR, B5, 7:1BHF)	WT02_B5	BATCH	79,000
	Wet etch. Ti H2O2	WT05_B3	BATCH	133,000
	Wet etch. TiW SC1	WT05_B3	BATCH	133,000
기타	ID Marking	LM01	WAFER	6,000
측정	CD Measurement	CD01	WAFER	67,000
	Film Thickness Profile (Long Scan Profiler)	LS01	WAFER	25,000
	Inspection (Microscope) 1hr 이내	MS01	WAFER	13,000
	Measure. Rs_MG08	RM02	WAFER	13,000
	Measure. Rs_Non MG08	RM01	WAFER	13,000
	Measure. Thick_film (Reflectometer)	FM01	WAFER	25,000
	Measure. Thin film (Ellipsometer)	FM03	WAFER	35,000
	Particle count	PC01	WAFER	13,000
	신규박막 모델링(박막 1종 기준)	FM03	COUNT	321,000
분석	EDX 측정	SEM1	EA	29,000
	Pt 코팅	SEM1	EA	11,000
	SEM Analysis (시료 5ea 이하)	SEM1	EA	64,000
	SEM Analysis (시료 5ea 초과)	SEM1	EA	51,000
PACKAGING	Wire Bonding	WIB1	CHIP	49,000
자재	Test Wafer		WAFER	38,000
	Prime Wafer		WAFER	53,000
	Wafer Carrier & Box (6inch용 25slots)		EA	100,000

No.	기타사항
1	기본료 100,000원 서비스 건마다 적용(양산 계약 건은 제외)
2	외부 기관 양산의 경우는 계약 volume(금액)에 따라 구간 별 할인율 누진하여 적용 - 0.5억원 이상 ~ 1억원 미만 : 공정 단가의 80% - 1억원 이상 ~ 2억원 미만 : 공정 단가의 70% - 2억원 이상 ~ 3억원 미만 : 공정 단가의 60% - 3억원 이상은 별도 협의하여 할인율 적용 (예시) 양산 계약 volume 총 2.5억원 의뢰시 0.5억원 + (0.5억원x80%) + (1억원x0.70%) + (0.5억원x60%) =1.9억원
3	Hot Run 지정 시 총 공정비용의 150% 적용 (Hot Run은 적정한 사유로 부서장의 승인을 받아야함)
4	공정, 장비, PI 엔지니어가 기술검토, 개발이 필요한 공정의 단가는 별도 협의함 (별첨. 'ETRI 엔지니어링 기준'에 따르며 공정단가의 300%이내 적용)
5	SOG 용액 수급 상황에 따라 공정단가가 변경될 수 있음
6	공정단가표에 없는 신규 개발 Recipe는 공정 담당자와 협의하여 추가 될 수 있음

Version 3.0 2024.03.29

ETRI 반도체실험실 엔지니어링비(Engineering Fee) 기준

1. 정의

엔지니어링비(Engineering Fee)란 의뢰자의 기술적 요구에 대하여 ETRI 반도체실험실에서 지정한 엔지니어(공정 엔지니어, 장비 엔지니어, PI 엔지니어)가 공정의 순서, 조건, 구조, 방법, 디자인 등에 대해서 수정, 추가와 같은 컨설팅 및 공정을 직접 수행하는 경우 발생하는 비용입니다.

2. 엔지니어링비 적용 기준

Level	공정 단순지원	엔지니어 Run Follow up	공정설계 (Process Integration) 검토 지원	Photo Mask 설계 지원	소자 설계 (PI)지원	**추가 부과비용**
Level 1	O					**없음**
Level 2	O	O				**총 금액의 20%**
Level 3	O	O	O			**총 금액의 50 or 100%**
Level 4	O	O	O	O		**총 금액의 150%**
Level 5	O	O	O	O	O	**총 금액의 200%**

Level 1. 공정 단순 지원 : 의뢰자의 공정 의뢰에 대하여 확정된 런시트(Run Sheet) 기준으로 엔지니어의 개입없이 전문 오퍼레이터가 런(Run)을 수행하는 경우이며, 추가 공정비용은 없음

Level 2. 엔지니어 Run Follow up : (Level 1. 항목을 포함) 의뢰자와 담당 엔지니어가 협의하여 투입 런(Run)에 대해 공정 이상유무 검사(Inspection) 및 최적화 조치 등을 수행하며, 엔지니어링비로 총 공정비용의 20% 추가 부과함 (증빙자료 : Fab Out Run Sheet)

Level 3. 공정설계(Process Integration) 검토 지원 : (Level 1,2. 항목을 포함) 의뢰자가 처음 제안하는 Process Flow 혹은 상세 공정조건이 담당 엔지니어 기술적인 컨설팅으로 변경하여 런시트에 반영되는 경우이며, 엔지니어링비로 총 공정비용의 50%를 추가 부과함. 단, 모든 공정(Full Process)을 설계 하는 경우 총 공정비용의 100%를 추가 부과함 (증빙자료 : Fab Out Run Sheet, Process Flow)

ETRI
Electronics and Telecommunications Research Institute

Level 4. Photo Mask 설계 지원 : (Level 1,2,3. 항목을 포함) 의뢰자의 추가 요청에 의해 담당 엔지니어가 Photo Mask 설계를 직접 수행하는 경우이며, 엔지니어링비로 총 공정비용의 150%를 추가 부과함 (증빙자료 : Fab Out Run Sheet, Process Flow, GDS 파일)

Level 5. 소자 설계(PI) 지원 : (Level 1,2,3,4. 항목을 포함) 의뢰자가 제안한 소자에 대해 담당 엔지니어가 직접 소자 설계를 지원하는 경우이며, 엔지니어링비로 총 공정비용의 200%를 추가 부과함 (증빙자료 : Fab Out Run Sheet, Process Flow, GDS 파일, 결과 Summary)

3. 기타

- 엔지니어링비는 견적서에 항목에 추가하며, 추가 부과비용 대상이 아닌 경우 Level 1 (추가 부과비용 0원)으로 반영함

- 엔지니어링비 추가 부과대상인 경우 사전에 의뢰자에게 견적서를 제공하며 협의함

- 엔지니어링비 비용 적용기준 선정은 센터장과 담당 엔지니어 회의를 통해 선정함