

Film	Step	Target	cath #	T° [°C]	Z PS [mm]	Wait Press. [mbar]	Ar [sccm]	O ₂ [sccm]	N ₂ [sccm]	Press. [mbar]	Source	Power [W]	Target clean [min:ss]	Max duration [hh:min:ss]	Dep. Rate [A.s ⁻¹] @center	Dep. Rate [A.s ⁻¹] average	Uniformity [%] Ø80mm	Resistivity [μΩ.cm]	Stress [MPa]	Référence	Max Thick [nm]	
Plasma Activation O2	A			20	80	1.0E-05	0	20	0	5.0E-03	RF2	30									0	
Plasma Oxidation	O			20	80	1.0E-05	0	20	0	5.0E-03	RF2	100										0
RF-etch Ar	E			20	80	1.0E-05	50	0	0	9.0E-02	RF2	100										0
RF-etch Ar	E+			20	80	1.0E-05	50	0	0	9.0E-02	RF2	150										0
Ag	Ag_fast	Ag	2	20	30	1.0E-06	30	0	0	5.0E-03	DC	200	00:30	00:10:00	33.8	28.5	15.2%	2.65	32	025,	1710	
Ag	Ag_unif	Ag	2	20	80	1.0E-06	30	0	0	5.0E-03	DC	250	00:30	00:15:00	19.2	17.4	8.5%	2.60	14	024,	1560	
Ag	Ag_slow	Ag	2	20	80	1.0E-06	30	0	0	5.0E-03	DC	50	00:30	00:15:00								0
Ag2O	Ag2O_unif	Ag	2	20	80	5.0E-06	15	25	0	4.0E-02	RF1	150	03:10	00:30:00								0
Al	Al_fast	Al	2	20	30	1.0E-06	30	0	0	5.0E-03	DC	400	00:30	00:15:00	14.7	12.2	17.3%	3.74	68	012,	1090	
Al	Al_unif	Al	2	20	80	1.0E-06	30	0	0	5.0E-03	DC	400	00:30	01:00:00	5.8	5.3	8.1%	4.88	31	011,	1900	
AlSi1%	AlSi1%_fast	AlSi1%	2	20	30	1.0E-06	30	0	0	5.0E-03	DC	400	00:30	00:15:00	14.7	12.2	17.3%	3.74	68		1090	
AlSi1%	AlSi1%_unif	AlSi1%	2	20	80	1.0E-06	30	0	0	5.0E-03	DC	400	00:30	01:00:00	5.8	5.3	8.1%	4.88	31		1900	
Au	Au_fast	Au	5	20	30	1.0E-06	30	0	0	5.0E-03	DC	200	00:20	00:10:00	23.5	19.1	16.6%	5.10	78	014,	1140	
Au	Au_slow	Au	5	20	80	1.0E-06	30	0	0	5.0E-03	DC	50	00:20	00:30:00	2.3	2.0	7.8%					360
Au	Au_unif	Au	5	20	80	1.0E-06	30	0	0	5.0E-03	DC	250	00:20	00:15:00	13.8	12.3	10.7%	5.10	85	013,	1100	
Cr	Cr_fast	Cr	4	20	30	1.0E-06	30	0	0	5.0E-03	DC	200	00:30	00:15:00	7.7	6.8	11.3%	36.06	1963	001, 023	610	
Cr	Cr_unif	Cr	4	20	80	1.0E-06	30	0	0	5.0E-03	DC	350	00:30	00:15:00	6.4	5.8	7.6%	52.21	822 - 1268	002, 003, 004 005, 022	520	
Cu	Cu_fast	Cu	6	20	30	1.0E-06	30	0	0	5.0E-03	DC	400	00:20	00:40:00	30.5	26.5	10.6%	2.63	258	007,	6360	
Cu	Cu_unif	Cu	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	400	00:20	00:30:00	14.2	12.6	8.5%	2.62	231	006,	2260	
Cu	Cu_slow	Cu	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	50	00:20	00:30:00	1.3						053,	0
Cu3N	Cu3N_unif	Cu_r	1	20	80	1.0E-06	0	0	30	5.0E-03	DC	200	03:30	00:30:00	5.0	4.6	7.2%				048,	820
FeCoB 60:20:20 at%	FeCoB_slow	FeCoB	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	100	01:00	00:30:00								0
FeCoB 60:20:20 at%	FeCoB_unif	FeCoB	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200	01:00	00:30:00		0.3					049,	50
Ge	Ge_unif	Ge	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	200	01:00	00:30:00	7.2	6.5	7.6%				054,	1170
IGZO	IGZO_fast	IGZO	1	20	30	1.0E-06	30	0	0	5.0E-03	RF1	200	01:00	00:10:00	6.3	5.2	16.5%	-				310
IGZO	IGZO_unif	IGZO	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200	01:00	00:20:00	2.7	2.5	8.5%	-				300
IGZO	IGZO(O2)_unif	IGZO	1	20	80	1.0E-06	21	9	0	5.0E-03	RF1	200	01:00	00:20:00				-				0
Ir	Ir_fast	Ir	2	20	30	1.0E-06	30	0	0	5.0E-03	DC	250	01:00	00:20:00	9.7	8.0	17.6%	17.12	-1750	027,	960	
Ir	Ir_unif	Ir	2	20	80	1.0E-06	30	0	0	5.0E-03	DC	250	01:00	00:30:00	4.4	4.0	8.1%	17.25	-1926	026,	720	
IrOx	IrOx_unif	Ir	2	20	80	5.0E-06	30	15	0	7.5E-03	DC	200	03:10	00:30:00	6.9	6.5	4.4%	395.00	-2066	028,	1170	
IrOx low stress	IrOx(LS)_unif	Ir	2	20	80	5.0E-06	30	15	0	1.2E-02	DC	200	03:10	00:30:00	9.6	7.9	16.5%		-489	047,	1420	

Film	Step	Target	cath #	T° [°C]	Z PS [mm]	Wait Press. [mbar]	Ar [sccm]	O ₂ [sccm]	N ₂ [sccm]	Press. [mbar]	Source	Power [W]	Target clean [min:ss]	Max duration [hh:min:ss]	Dep. Rate [A.s ⁻¹] @center	Dep. Rate [A.s ⁻¹] average	Uniformity [%] Ø80mm	Resistivity [μΩ.cm]	Stress [MPa]	Référence	Max Thick [nm]	
Mo	Mo_fast	Mo	6	20	30	1.0E-06	30	0	0	5.0E-03	DC	400	00:30	00:30:00	15.6	13.6	11.0%	13.04	-448	035,	2440	
Mo	Mo_unif	Mo	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	400	00:30	00:30:00	7.0	6.7	4.0%	14.87	470	034,	1200	
Ni	Ni_fast	Ni	1	20	30	1.0E-06	30	0	0	5.0E-03	RF1	300	01:00	00:30:00	9.8	8.1	16.7%	10.78	201	016,	1450	
Ni	Ni_slow	Ni	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	50	01:00	00:30:00								0
Ni	Ni_unif	Ni	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	300	01:00	00:30:00	4.3	3.8	9.9%	10.11	398	015,	680	
NiCu	NiCu_unif	NiCu	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	300	01:00	00:30:00								0
NiCuOx	NiCuOx_unif	NiCu	1	20	80	5.0E-06	30	15	0	7.5E-03	RF1	300	03:10	00:30:00								0
Pd	Pd_fast	Pd	2	20	30	1.0E-06	30	0	0	5.0E-03	DC	200	00:20	00:20:00	18.8	16.6	11.3%	14.22	-47	033,	1990	
Pd	Pd_unif	Pd	2	20	80	1.0E-06	30	0	0	5.0E-03	DC	250	00:20	00:30:00	10.5	9.9	6.4%	14.84	-37	032,	1780	
Pt	Pt_fast	Pt	6	20	30	1.0E-06	30	0	0	5.0E-03	DC	200	00:20	00:20:00	13.3	10.8	16.9%	17.36	-423	018,	1290	
Pt	Pt_unif	Pt	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	250	00:20	00:30:00	7.3	6.7	7.2%	17.33	-463	017,	1200	
Si	Si_unif	Si	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	200	00:30	01:00:00	2.0	1.8	9.3%		52	019,	640	
Sb	Sb_fast	Sb	6	20	30	1.0E-06	30	0	0	5.0E-03	DC	250	00:30	00:10:00	59.8	53.6	11.5%			051,	3210	
Sb	Sb_slow	Sb	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	50	00:30	00:30:00	3.3	3.0				052,	540	
Sb	Sb_unif	Sb	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	250	00:30	00:15:00	27.3	25.7	6.1%			050,	2310	
Sn	Sn_fast	Sn	6	20	30	1.0E-06	30	0	0	5.0E-03	DC	250	00:30	00:10:00	58.7	52.6	7.9%	21.97	9	043,	3150	
Sn	Sn_slow	Sn	3 or 6	20	80	1.0E-06	30	0	0	5.0E-03	DC	50	00:30	00:30:00								0
Sn	Sn_unif	Sn	3 or 6	20	80	1.0E-06	30	0	0	5.0E-03	DC	250	00:30	00:15:00	36.9	34.7	8.0%	102.20	-33	042,	3120	
Ta	Ta_fast	Ta	3	20	30	1.0E-06	30	0	0	5.0E-03	DC	200	00:30	00:30:00	6.3	5.8	10.3%	177 - 22	-1714	009, 030	1040	
Ta	Ta_unif	Ta	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	200	00:30	01:00:00	3.0	2.9	7.9%	177 - 45	-1506	008, 029	1040	
Ta	Ta(LS)_unif	Ta	3	20	80	1.0E-06	30	0	0	5.0E-02	DC	200	00:30	01:00:00	5.8	5.2	8.7%	172	-35 / -94	010, 031	1870	
TaN	TaN_unif	TaN	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200	00:30	00:30:00	1.33	1.23	6.5%	-			220	
Ti	Ti_fast	Ti	3	20	30	1.0E-06	30	0	0	5.0E-03	DC	400	00:30	00:30:00	7.0	6.2	9.2%	62.40	-660	021,	1110	
Ti	Ti_unif	Ti	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	400	00:30	01:00:00	3.4	3.1	6.4%	79.73	-103	020,	1110	
TiN	TiN_fast	TiN	1	20	30	1.0E-06	30	0	0	5.0E-03	RF1	200	01:00	00:30:00	2.19	1.96	9.0%	237.00			350	
TiN	TiN_unif	TiN	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200	01:00	00:30:00	1.50	1.45	2.5%	1740.00			260	
TiN	TiN(N2)_unif	TiN	1	20	80	1.0E-06	30	0	5	5.0E-03	RF1	200	01:00	00:30:00							0	
TiO2	TiO2_fast	TiO2	1	20	30	1.0E-06	30	0	0	5.0E-03	RF1	200	01:00	00:12:30	1.55	1.35	11.0%	-			100	
TiO2	TiO2_unif	TiO2	1 or 2	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200	01:00	00:25:00	0.71	0.66	5.8%	-			90	

Film	Step	Target	cath #	T° [°C]	Z PS [mm]	Wait Press. [mbar]	Ar [sccm]	O ₂ [sccm]	N ₂ [sccm]	Press. [mbar]	Source	Power [W]	Target clean [min:ss]	Max duration [hh:min:ss]	Dep. Rate [A.s ⁻¹] @center	Dep. Rate [A.s ⁻¹] average	Uniformity [%] Ø80mm	Resistivity [μΩ.cm]	Stress [MPa]	Référence	Max Thick [nm]
W	W_fast	W	6	20	30	1.0E-06	30	0	0	5.0E-03	DC	250	00:30	00:20:00	7.8	6.8	11.3%	17.27	-2596	037,	810
W	W_unif	W	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	250	00:30	00:45:00	3.4	3.3	5.6%	17.13	-2206	036, 055	890
W low stress	W(LS)_unif	W	6	20	80	1.0E-06	30	0	0	1.0E-02	DC	250	00:30	00:45:00	3.9	3.6	9.9%	20.73	-1327	046,	970
WOx	WOx_unif	W	6	20	80	1.0E-06	30	9	0	7.5E-03	DC	200	03:10	00:30:00	5.6	5.1	8.1%		-166	044, 045	910
WTi10%	WTi10%_fast	WTi10%	2	20	30	1.0E-06	30	0	0	5.0E-03	DC	250	00:30	00:20:00	7.9	7.0	9.9%	67.58	-2171	039,	840
WTi10%	WTi10%_unif	WTi10%	2	20	80	1.0E-06	30	0	0	5.0E-03	DC	250	00:30	00:30:00	3.6	3.4	5.4%	67.11	-2283	038,	610
WTi10% low stress	WTi10%(LS)_f	WTi10%	2	20	30	1.0E-06	30	0	0	5.0E-02	DC	250	00:30	00:20:00	13.1	11.7	9.6%	270.09	96	041,	1400
WTi10% low stress	WTi10%(LS)_u	WTi10%	2	20	80	1.0E-06	30	0	0	5.0E-02	DC	250	00:30	00:30:00	7.2	6.6	7.8%	201.00	-69	040,	1180