

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]	Bias [W]	Target clean [min:ss]	Max duration [hh:min:ss]	Dep. Rate [Å.s ⁻¹] _{@center}	Dep. Rate [Å.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 or 5	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 or 5	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:30	00:15:00		4.3					380
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
Al	Al_slow	Al	2	20	80	1.0E-06	30	0	0	5.0E-03	DC	200		00:30	00:15:00							0
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	21.7	18.0	14.4%	5.10	78.00		1080
Au	Au_slow	Au	5	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:20	00:30:00	1.9	1.7	7.3%				300
Au	Au_unif	Au	5	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		00:20	00:15:00	13.1	11.6	9.4%	5.10	85.00		1040
AZO	AZO_unif	AZO	2	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:15:00	2.6	2.5	7.4%			^{059.}	220
Bi	Bi_very_slow	Sn	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:30	00:30:00	4.3	4.0	8.2%			^{069.}	720
Bi	Bi_slow	Sn	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	150		00:30	00:15:00	16.1	14.4	7.9%			^{068.}	1290
Bi	Bi_unif	Sn	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		00:30	00:10:00	29.8	26.5	8.5%			^{070.}	1590
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	6.7	10.7%	36.06	1963.00		600
Cr	Cr_unif	Cr	4	20	80	1.0E-06	30	0	0	5.0E-03	DC	350		00:30	00:30:00	6.2	5.8	5.1%	52.21	22 - 1268		1040
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
Fe	Fe_unif	Fe	1	20	80	1.0E-06	30	0	0	5.0E-02	RF1	300		01:00	00:30:00	0.5	0.5	14.0%			^{058.}	90
Fe/Ge 50/50%at	FeGe_fast	FeGe_50-50	2	20	30	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:15:00							0
Fe/Ge 50/50%at	FeGe_unif	FeGe_50-50	2	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:15:00	2.5	2.3	7.0%				200
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
Fe2O3	Fe2O3_unif	Fe2O3	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:25:00	1.0	0.9	12.8%			^{057.}	130
Ge	Ge_unif	Ge	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	200		00:30	00:15:00	7.2	6.5	7.6%			^{054.}	580
Ge	Ge_slow	Ge	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:30	00:30:00	?	1.3	?				230
Ge2Sb2Te5	Ge2Sb2Te5_unif	Ge2Sb2Te5	1 or 2	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:25:00	17.0	15.2	9.5%				2280

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Ge/Sn 80/20 at%	GeSn_80-20_unif	GeSn_80-20	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		00:30	00:15:00	9.4	9.0	?				810	
Ge/Sn 80/20 at%	GeSn_80-20_slow	GeSn_80-20	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:30	00:15:00								0
Ge/Sn 84/16 at%	GeSn_84-16_unif	GeSn_84-16	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		00:30	00:15:00	9.2	8.2	8.8%			060,	730	
Ge/Sn 84/16 at%	GeSn_84-16_slow(1)	GeSn_84-16	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:30	00:15:00	1.4	1.3	8.5%			061,	110	
Ge/Sn 84/16 at%	GeSn_84-16_slow(2)	GeSn_84-16	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	100		00:30	00:15:00								0
Ge/Sn 84/16 at%	GeSn_84-16_slow(3)	GeSn_84-16	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	150		00:30	00:15:00								0
Ge/Sn 90/10 at%	GeSn_90-10_unif	GeSn_90-10	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		00:30	00:15:00								0
Ge/Sn 90/10 at%	GeSn_90-10_slow	GeSn_90-10	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:30	00:15:00								0
Ge/Sn 94/6 at%	GeSn_94-6_unif	GeSn_94-6	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		00:30	00:15:00								0
Ge/Sn 94/6 at%	GeSn_94-6_slow	GeSn_94-6	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:30	00:15:00								0
GeTe	GeTe_unif	GeTe	2	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:25:00	12.0	10.8	9.2%					1620
HfC	HfC_fast	HfC	1	20	30	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:30:00	3.5	3.0	15.1%					540
HfC	HfC_unif	HfC	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:30:00	1.7	1.5	9.0%					270
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	
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	
Nb	Nb_fast	Nb	6	20	30	1.0E-06	30	0	0	5.0E-03	DC	250		00:30	00:30:00	7.2	6.4	10.5%	21.19		074,	1150	
Nb	Nb_unif	Nb	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		00:30	00:30:00	3.3	3.2	4.1%	35.39		073,	570	
Nb/Ti 50/50 at%	NbTi_50-50_fast	NbTi_50-50	3	20	30	1.0E-06	30	0	0	5.0E-03	DC	250		01:00	00:30:00								0
Nb/Ti 50/50 at%	NbTi_50-50_unif	NbTi_50-50	3 or 6	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		01:00	00:30:00	3.5	3.3	4.5%				062,	590
NbTiN 50/50 at%	NbTiN_50-50_unif	NbTi_50-50	3 or 6	20	80	1.0E-06	30	0	2	5.0E-03	DC	150	50	00:30	00:30:00		0.8						140
Nb/Ti 85/15 at%	NbTi_85-15_unif	NbTi_85-15	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		01:00	00:30:00	2.9	2.8	3.2%				072,	500
NbTiN 85/15 at%	NbTiN_85-15_unif	NbTi_85-15	3	20	80	1.0E-06	30	0	2	5.0E-03	DC	150	50	00:30	00:30:00	0.8	0.8	6.1%				071,	140
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	
NiO	NiO_unif	NiO	2	20	80	1.0E-06	30	0	0	8.0E-03	RF1	200		01:00	00:15:00	1.4	1.4	2.5%				067,	120
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

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]	Bias [W]	Target clean [min:ss]	Max duration [hh:min:ss]	Dep. Rate [Å.s ⁻¹] @center	Dep. Rate [Å.s ⁻¹] average	Uniformity [%] Ø80mm	Resistivity [μΩ.cm]	Stress [MPa]	Référence	Max Thick [nm]
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
Pd	Pd_slow	Pd	2	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:20	00:30:00							0
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	3 or 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
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
Sb2S3	Sb2S3_fast	Sb2S3	2	20	30	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:30:00	30.4	24.7	18.1%				4440
Sb2S3	Sb2S3_unif	Sb2S3	2	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:30:00	13.4	11.9	10.3%				2140
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
Si	Si_slow	Si	6	20	80	1.0E-06	30	0	0	5.0E-03	DC	100		00:30	01:00:00							0
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	5.0						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_fast	TaN	1	20	30	1.0E-06	30	0	2	5.0E-03	RF1	200		00:30	00:30:00							0
TaN	TaN_unif	TaN	1	20	80	1.0E-06	30	0	2	5.0E-03	RF1	200		00:30	00:30:00	1.33	1.23	6.5%	-			220
Ti	Ti_fast	Ti	1 or 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	1 or 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
Ti	Ti_slow	Ti	1 or 3	20	80	1.0E-06	30	0	0	5.0E-03	DC	200		00:30	01:00:00							0
Ti	Ti_very_slow	Ti	1 or 3	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:30	01:00:00							0
TiC	TiC_fast	TiC	1	20	30	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:30:00	1.6	1.4	14.0%	-		066.	250
TiC	TiC_unif	TiC	1	20	80	1.0E-06	30	0	0	5.0E-03	RF1	200		01:00	00:30:00	0.8	0.7	8.6%	-		065.	120
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	1.04	0.98	4.5%	1740.00		056.	170
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
W	W_fast	W	6	20	30	1.0E-06	30	0	0	5.0E-03	DC	250		00:30	00:30:00	7.8	6.8	11.3%	17.27	-2596	037.	1220
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

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]	Bias [W]	Target clean [min:ss]	Max duration [hh:min:ss]	Dep. Rate [Å.s ⁻¹] @center	Dep. Rate [Å.s ⁻¹] average	Uniformity [%] Ø80mm	Resistivity [μΩ.cm]	Stress [MPa]	Référence	Max Thick [nm]
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
Zn	Zn_unif	Zn	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	200		00:30	00:10:00	21.2	19.8	5.6%			063.	1180
Zn	Zn_slow	Zn	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	50		00:30	00:15:00	4.3	4.1	3.4%			064.	360
Zr	Zr_unif	Zr_r	3	20	80	1.0E-06	30	0	0	5.0E-03	DC	250		01:00	00:30:00	3.9	3.8	3.0%				680
Zr(N)	Zr(N)_unif	Zr_r	3	20	80	1.0E-06	30	0	10	5.0E-03	DC	250		03:10	00:30:00	0.9	0.9	7.5%				160