



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



# PREPARATION PHYSIQUE

## CONTRÔLE DES ALLURES

VMA : 10 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	7,00	00:51	01:17	01:43	02:09	02:34	03:26	04:17	05:09	06:51	08:34	12:51	17:09	21:26	25:43
75%	7,50	00:48	01:12	01:36	02:00	02:24	03:12	04:00	04:48	06:24	08:00	12:00	16:00	20:00	24:00
80%	8,00	00:45	01:07	01:30	01:52	02:15	03:00	03:45	04:30	06:00	07:30	11:15	15:00	18:45	22:30
85%	8,50	00:42	01:04	01:25	01:46	02:07	02:49	03:32	04:14	05:39	07:04	10:35	14:07	17:39	21:11
90%	9,00	00:40	01:00	01:20	01:40	02:00	02:40	03:20	04:00	05:20	06:40	10:00	13:20	16:40	20:00
95%	9,50	00:38	00:57	01:16	01:35	01:54	02:32	03:09	03:47	05:03	06:19	09:28	12:38	15:47	18:57
100%	10,00	00:36	00:54	01:12	01:30	01:48	02:24	03:00	03:36	04:48	06:00	09:00	12:00	15:00	18:00
105%	10,50	00:34	00:51	01:09	01:26	01:43	02:17	02:51	03:26	04:34	05:43	08:34	11:26	14:17	17:09
110%	11,00	00:33	00:49	01:05	01:22	01:38	02:11	02:44	03:16	04:22	05:27	08:11	10:55	13:38	16:22
120%	12,00	00:30	00:45	01:00	01:15	01:30	02:00	02:30	03:00	04:00	05:00	07:30	10:00	12:30	15:00
130%	13,00	00:28	00:42	00:55	01:09	01:23	01:51	02:18	02:46	03:42	04:37	06:55	09:14	11:32	13:51

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	7,00	9,72	19,44	29,17	38,89	58,33	87,50	116,67	233,33	350,00	466,67	583,33	700,00	1166,67	1750,00
75%	7,50	10,42	20,83	31,25	41,67	62,50	93,75	125,00	250,00	375,00	500,00	625,00	750,00	1250,00	1875,00
80%	8,00	11,11	22,22	33,33	44,44	66,67	100,00	133,33	266,67	400,00	533,33	666,67	800,00	1333,33	2000,00
85%	8,50	11,81	23,61	35,42	47,22	70,83	106,25	141,67	283,33	425,00	566,67	708,33	850,00	1416,67	2125,00
90%	9,00	12,50	25,00	37,50	50,00	75,00	112,50	150,00	300,00	450,00	600,00	750,00	900,00	1500,00	2250,00
95%	9,50	13,19	26,39	39,58	52,78	79,17	118,75	158,33	316,67	475,00	633,33	791,67	950,00	1583,33	2375,00
100%	10,00	13,89	27,78	41,67	55,56	83,33	125,00	166,67	333,33	500,00	666,67	833,33	1000,00	1666,67	2500,00
105%	10,50	14,58	29,17	43,75	58,33	87,50	131,25	175,00	350,00	525,00	700,00	875,00	1050,00	1750,00	2625,00
110%	11,00	15,28	30,56	45,83	61,11	91,67	137,50	183,33	366,67	550,00	733,33	916,67	1100,00	1833,33	2750,00
120%	12,00	16,67	33,33	50,00	66,67	100,00	150,00	200,00	400,00	600,00	800,00	1000,00	1200,00	2000,00	3000,00
130%	13,00	18,06	36,11	54,17	72,22	108,33	162,50	216,67	433,33	650,00	866,67	1083,33	1300,00	2166,67	3250,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



## PREPARATION PHYSIQUE CONTRÔLE DES ALLURES

VMA : 10,5 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	7,35	00:49	01:13	01:38	02:02	02:27	03:16	04:05	04:54	06:32	08:10	12:15	16:20	20:24	24:29
75%	7,88	00:46	01:09	01:31	01:54	02:17	03:03	03:49	04:34	06:06	07:37	11:26	15:14	19:03	22:51
80%	8,40	00:43	01:04	01:26	01:47	02:09	02:51	03:34	04:17	05:43	07:09	10:43	14:17	17:51	21:26
85%	8,93	00:40	01:01	01:21	01:41	02:01	02:41	03:22	04:02	05:23	06:43	10:05	13:27	16:48	20:10
90%	9,45	00:38	00:57	01:16	01:35	01:54	02:32	03:10	03:49	05:05	06:21	09:31	12:42	15:52	19:03
95%	9,98	00:36	00:54	01:12	01:30	01:48	02:24	03:00	03:37	04:49	06:01	09:01	12:02	15:02	18:03
100%	10,50	00:34	00:51	01:09	01:26	01:43	02:17	02:51	03:26	04:34	05:43	08:34	11:26	14:17	17:09
105%	11,03	00:33	00:49	01:05	01:22	01:38	02:11	02:43	03:16	04:21	05:27	08:10	10:53	13:36	16:20
110%	11,55	00:31	00:47	01:02	01:18	01:34	02:05	02:36	03:07	04:09	05:12	07:48	10:23	12:59	15:35
120%	12,60	00:29	00:43	00:57	01:11	01:26	01:54	02:23	02:51	03:49	04:46	07:09	09:31	11:54	14:17
130%	13,65	00:26	00:40	00:53	01:06	01:19	01:45	02:12	02:38	03:31	04:24	06:36	08:47	10:59	13:11

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	7,35	10,21	20,42	30,63	40,83	61,25	91,88	122,50	245,00	367,50	490,00	612,50	735,00	1225,00	1837,50
75%	7,88	10,94	21,88	32,81	43,75	65,63	98,44	131,25	262,50	393,75	525,00	656,25	787,50	1312,50	1968,75
80%	8,40	11,67	23,33	35,00	46,67	70,00	105,00	140,00	280,00	420,00	560,00	700,00	840,00	1400,00	2100,00
85%	8,93	12,40	24,79	37,19	49,58	74,38	111,56	148,75	297,50	446,25	595,00	743,75	892,50	1487,50	2231,25
90%	9,45	13,13	26,25	39,38	52,50	78,75	118,13	157,50	315,00	472,50	630,00	787,50	945,00	1575,00	2362,50
95%	9,98	13,85	27,71	41,56	55,42	83,13	124,69	166,25	332,50	498,75	665,00	831,25	997,50	1662,50	2493,75
100%	10,50	14,58	29,17	43,75	58,33	87,50	131,25	175,00	350,00	525,00	700,00	875,00	1050,00	1750,00	2625,00
105%	11,03	15,31	30,63	45,94	61,25	91,88	137,81	183,75	367,50	551,25	735,00	918,75	1102,50	1837,50	2756,25
110%	11,55	16,04	32,08	48,13	64,17	96,25	144,38	192,50	385,00	577,50	770,00	962,50	1155,00	1925,00	2887,50
120%	12,60	17,50	35,00	52,50	70,00	105,00	157,50	210,00	420,00	630,00	840,00	1050,00	1260,00	2100,00	3150,00
130%	13,65	18,96	37,92	56,88	75,83	113,75	170,63	227,50	455,00	682,50	910,00	1137,50	1365,00	2275,00	3412,50



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



**PREPARATION PHYSIQUE**  
**CONTRÔLE DES ALLURES**

**VMA : 11 km/h**

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	7,70	00:47	01:10	01:34	01:57	02:20	03:07	03:54	04:41	06:14	07:48	11:41	15:35	19:29	23:23
75%	8,25	00:44	01:05	01:27	01:49	02:11	02:55	03:38	04:22	05:49	07:16	10:55	14:33	18:11	21:49
80%	8,80	00:41	01:01	01:22	01:42	02:03	02:44	03:25	04:05	05:27	06:49	10:14	13:38	17:03	20:27
85%	9,35	00:39	00:58	01:17	01:36	01:56	02:34	03:13	03:51	05:08	06:25	09:38	12:50	16:03	19:15
90%	9,90	00:36	00:55	01:13	01:31	01:49	02:25	03:02	03:38	04:51	06:04	09:05	12:07	15:09	18:11
95%	10,45	00:34	00:52	01:09	01:26	01:43	02:18	02:52	03:27	04:36	05:44	08:37	11:29	14:21	17:13
100%	11,00	00:33	00:49	01:05	01:22	01:38	02:11	02:44	03:16	04:22	05:27	08:11	10:55	13:38	16:22
105%	11,55	00:31	00:47	01:02	01:18	01:34	02:05	02:36	03:07	04:09	05:12	07:48	10:23	12:59	15:35
110%	12,10	00:30	00:45	01:00	01:14	01:29	01:59	02:29	02:59	03:58	04:58	07:26	09:55	12:24	14:53
120%	13,20	00:27	00:41	00:55	01:08	01:22	01:49	02:16	02:44	03:38	04:33	06:49	09:05	11:22	13:38
130%	14,30	00:25	00:38	00:50	01:03	01:16	01:41	02:06	02:31	03:21	04:12	06:18	08:23	10:29	12:35

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	7,70	10,69	21,39	32,08	42,78	64,17	96,25	128,33	256,67	385,00	513,33	641,67	770,00	1283,33	1925,00
75%	8,25	11,46	22,92	34,38	45,83	68,75	103,13	137,50	275,00	412,50	550,00	687,50	825,00	1375,00	2062,50
80%	8,80	12,22	24,44	36,67	48,89	73,33	110,00	146,67	293,33	440,00	586,67	733,33	880,00	1466,67	2200,00
85%	9,35	12,99	25,97	38,96	51,94	77,92	116,88	155,83	311,67	467,50	623,33	779,17	935,00	1558,33	2337,50
90%	9,90	13,75	27,50	41,25	55,00	82,50	123,75	165,00	330,00	495,00	660,00	825,00	990,00	1650,00	2475,00
95%	10,45	14,51	29,03	43,54	58,06	87,08	130,63	174,17	348,33	522,50	696,67	870,83	1045,00	1741,67	2612,50
100%	11,00	15,28	30,56	45,83	61,11	91,67	137,50	183,33	366,67	550,00	733,33	916,67	1100,00	1833,33	2750,00
105%	11,55	16,04	32,08	48,13	64,17	96,25	144,38	192,50	385,00	577,50	770,00	962,50	1155,00	1925,00	2887,50
110%	12,10	16,81	33,61	50,42	67,22	100,83	151,25	201,67	403,33	605,00	806,67	1008,33	1210,00	2016,67	3025,00
120%	13,20	18,33	36,67	55,00	73,33	110,00	165,00	220,00	440,00	660,00	880,00	1100,00	1320,00	2200,00	3300,00
130%	14,30	19,86	39,72	59,58	79,44	119,17	178,75	238,33	476,67	715,00	953,33	1191,67	1430,00	2383,33	3575,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



## PREPARATION PHYSIQUE

### CONTRÔLE DES ALLURES

VMA : 11,5 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	8,05	00:45	01:07	01:29	01:52	02:14	02:59	03:44	04:28	05:58	07:27	11:11	14:54	18:38	22:22
75%	8,63	00:42	01:03	01:23	01:44	02:05	02:47	03:29	04:10	05:34	06:57	10:26	13:55	17:23	20:52
80%	9,20	00:39	00:59	01:18	01:38	01:57	02:37	03:16	03:55	05:13	06:31	09:47	13:03	16:18	19:34
85%	9,78	00:37	00:55	01:14	01:32	01:50	02:27	03:04	03:41	04:55	06:08	09:12	12:17	15:21	18:25
90%	10,35	00:35	00:52	01:10	01:27	01:44	02:19	02:54	03:29	04:38	05:48	08:42	11:36	14:30	17:23
95%	10,93	00:33	00:49	01:06	01:22	01:39	02:12	02:45	03:18	04:24	05:30	08:14	10:59	13:44	16:29
100%	11,50	00:31	00:47	01:03	01:18	01:34	02:05	02:37	03:08	04:10	05:13	07:50	10:26	13:03	15:39
105%	12,08	00:30	00:45	01:00	01:15	01:29	01:59	02:29	02:59	03:59	04:58	07:27	09:56	12:25	14:54
110%	12,65	00:28	00:43	00:57	01:11	01:25	01:54	02:22	02:51	03:48	04:45	07:07	09:29	11:51	14:14
120%	13,80	00:26	00:39	00:52	01:05	01:18	01:44	02:10	02:37	03:29	04:21	06:31	08:42	10:52	13:03
130%	14,95	00:24	00:36	00:48	01:00	01:12	01:36	02:00	02:24	03:13	04:01	06:01	08:02	10:02	12:02

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	8,05	11,18	22,36	33,54	44,72	67,08	100,63	134,17	268,33	402,50	536,67	670,83	805,00	1341,67	2012,50
75%	8,63	11,98	23,96	35,94	47,92	71,88	107,81	143,75	287,50	431,25	575,00	718,75	862,50	1437,50	2156,25
80%	9,20	12,78	25,56	38,33	51,11	76,67	115,00	153,33	306,67	460,00	613,33	766,67	920,00	1533,33	2300,00
85%	9,78	13,58	27,15	40,73	54,31	81,46	122,19	162,92	325,83	488,75	651,67	814,58	977,50	1629,17	2443,75
90%	10,35	14,38	28,75	43,13	57,50	86,25	129,38	172,50	345,00	517,50	690,00	862,50	1035,00	1725,00	2587,50
95%	10,93	15,17	30,35	45,52	60,69	91,04	136,56	182,08	364,17	546,25	728,33	910,42	1092,50	1820,83	2731,25
100%	11,50	15,97	31,94	47,92	63,89	95,83	143,75	191,67	383,33	575,00	766,67	958,33	1150,00	1916,67	2875,00
105%	12,08	16,77	33,54	50,31	67,08	100,63	150,94	201,25	402,50	603,75	805,00	1006,25	1207,50	2012,50	3018,75
110%	12,65	17,57	35,14	52,71	70,28	105,42	158,13	210,83	421,67	632,50	843,33	1054,17	1265,00	2108,33	3162,50
120%	13,80	19,17	38,33	57,50	76,67	115,00	172,50	230,00	460,00	690,00	920,00	1150,00	1380,00	2300,00	3450,00
130%	14,95	20,76	41,53	62,29	83,06	124,58	186,88	249,17	498,33	747,50	996,67	1245,83	1495,00	2491,67	3737,50



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



**PREPARATION PHYSIQUE**  
**CONTRÔLE DES ALLURES**

**VMA : 12 km/h**

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	8,40	00:43	01:04	01:26	01:47	02:09	02:51	03:34	04:17	05:43	07:09	10:43	14:17	17:51	21:26
75%	9,00	00:40	01:00	01:20	01:40	02:00	02:40	03:20	04:00	05:20	06:40	10:00	13:20	16:40	20:00
80%	9,60	00:38	00:56	01:15	01:34	01:52	02:30	03:07	03:45	05:00	06:15	09:22	12:30	15:37	18:45
85%	10,20	00:35	00:53	01:11	01:28	01:46	02:21	02:56	03:32	04:42	05:53	08:49	11:46	14:42	17:39
90%	10,80	00:33	00:50	01:07	01:23	01:40	02:13	02:47	03:20	04:27	05:33	08:20	11:07	13:53	16:40
95%	11,40	00:32	00:47	01:03	01:19	01:35	02:06	02:38	03:09	04:13	05:16	07:54	10:32	13:09	15:47
100%	12,00	00:30	00:45	01:00	01:15	01:30	02:00	02:30	03:00	04:00	05:00	07:30	10:00	12:30	15:00
105%	12,60	00:29	00:43	00:57	01:11	01:26	01:54	02:23	02:51	03:49	04:46	07:09	09:31	11:54	14:17
110%	13,20	00:27	00:41	00:55	01:08	01:22	01:49	02:16	02:44	03:38	04:33	06:49	09:05	11:22	13:38
120%	14,40	00:25	00:38	00:50	01:03	01:15	01:40	02:05	02:30	03:20	04:10	06:15	08:20	10:25	12:30
130%	15,60	00:23	00:35	00:46	00:58	01:09	01:32	01:55	02:18	03:05	03:51	05:46	07:42	09:37	11:32

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	8,40	11,67	23,33	35,00	46,67	70,00	105,00	140,00	280,00	420,00	560,00	700,00	840,00	1400,00	2100,00
75%	9,00	12,50	25,00	37,50	50,00	75,00	112,50	150,00	300,00	450,00	600,00	750,00	900,00	1500,00	2250,00
80%	9,60	13,33	26,67	40,00	53,33	80,00	120,00	160,00	320,00	480,00	640,00	800,00	960,00	1600,00	2400,00
85%	10,20	14,17	28,33	42,50	56,67	85,00	127,50	170,00	340,00	510,00	680,00	850,00	1020,00	1700,00	2550,00
90%	10,80	15,00	30,00	45,00	60,00	90,00	135,00	180,00	360,00	540,00	720,00	900,00	1080,00	1800,00	2700,00
95%	11,40	15,83	31,67	47,50	63,33	95,00	142,50	190,00	380,00	570,00	760,00	950,00	1140,00	1900,00	2850,00
100%	12,00	16,67	33,33	50,00	66,67	100,00	150,00	200,00	400,00	600,00	800,00	1000,00	1200,00	2000,00	3000,00
105%	12,60	17,50	35,00	52,50	70,00	105,00	157,50	210,00	420,00	630,00	840,00	1050,00	1260,00	2100,00	3150,00
110%	13,20	18,33	36,67	55,00	73,33	110,00	165,00	220,00	440,00	660,00	880,00	1100,00	1320,00	2200,00	3300,00
120%	14,40	20,00	40,00	60,00	80,00	120,00	180,00	240,00	480,00	720,00	960,00	1200,00	1440,00	2400,00	3600,00
130%	15,60	21,67	43,33	65,00	86,67	130,00	195,00	260,00	520,00	780,00	1040,00	1300,00	1560,00	2600,00	3900,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



**PREPARATION PHYSIQUE**  
**CONTRÔLE DES ALLURES**

VMA : 12,5 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	8,75	00:41	01:02	01:22	01:43	02:03	02:45	03:26	04:07	05:29	06:51	10:17	13:43	17:09	20:34
75%	9,38	00:38	00:58	01:17	01:36	01:55	02:34	03:12	03:50	05:07	06:24	09:36	12:48	16:00	19:12
80%	10,00	00:36	00:54	01:12	01:30	01:48	02:24	03:00	03:36	04:48	06:00	09:00	12:00	15:00	18:00
85%	10,63	00:34	00:51	01:08	01:25	01:42	02:16	02:49	03:23	04:31	05:39	08:28	11:18	14:07	16:56
90%	11,25	00:32	00:48	01:04	01:20	01:36	02:08	02:40	03:12	04:16	05:20	08:00	10:40	13:20	16:00
95%	11,88	00:30	00:45	01:01	01:16	01:31	02:01	02:32	03:02	04:03	05:03	07:35	10:06	12:38	15:09
100%	12,50	00:29	00:43	00:58	01:12	01:26	01:55	02:24	02:53	03:50	04:48	07:12	09:36	12:00	14:24
105%	13,13	00:27	00:41	00:55	01:09	01:22	01:50	02:17	02:45	03:39	04:34	06:51	09:09	11:26	13:43
110%	13,75	00:26	00:39	00:52	01:05	01:19	01:45	02:11	02:37	03:29	04:22	06:33	08:44	10:55	13:05
120%	15,00	00:24	00:36	00:48	01:00	01:12	01:36	02:00	02:24	03:12	04:00	06:00	08:00	10:00	12:00
130%	16,25	00:22	00:33	00:44	00:55	01:06	01:29	01:51	02:13	02:57	03:42	05:32	07:23	09:14	11:05

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	8,75	12,15	24,31	36,46	48,61	72,92	109,38	145,83	291,67	437,50	583,33	729,17	875,00	1458,33	2187,50
75%	9,38	13,02	26,04	39,06	52,08	78,13	117,19	156,25	312,50	468,75	625,00	781,25	937,50	1562,50	2343,75
80%	10,00	13,89	27,78	41,67	55,56	83,33	125,00	166,67	333,33	500,00	666,67	833,33	1000,00	1666,67	2500,00
85%	10,63	14,76	29,51	44,27	59,03	88,54	132,81	177,08	354,17	531,25	708,33	885,42	1062,50	1770,83	2656,25
90%	11,25	15,63	31,25	46,88	62,50	93,75	140,63	187,50	375,00	562,50	750,00	937,50	1125,00	1875,00	2812,50
95%	11,88	16,49	32,99	49,48	65,97	98,96	148,44	197,92	395,83	593,75	791,67	989,58	1187,50	1979,17	2968,75
100%	12,50	17,36	34,72	52,08	69,44	104,17	156,25	208,33	416,67	625,00	833,33	1041,67	1250,00	2083,33	3125,00
105%	13,13	18,23	36,46	54,69	72,92	109,38	164,06	218,75	437,50	656,25	875,00	1093,75	1312,50	2187,50	3281,25
110%	13,75	19,10	38,19	57,29	76,39	114,58	171,88	229,17	458,33	687,50	916,67	1145,83	1375,00	2291,67	3437,50
120%	15,00	20,83	41,67	62,50	83,33	125,00	187,50	250,00	500,00	750,00	1000,00	1250,00	1500,00	2500,00	3750,00
130%	16,25	22,57	45,14	67,71	90,28	135,42	203,13	270,83	541,67	812,50	1083,33	1354,17	1625,00	2708,33	4062,50



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



# PREPARATION PHYSIQUE

## CONTRÔLE DES ALLURES

VMA : 13 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	9,10	00:40	00:59	01:19	01:39	01:59	02:38	03:18	03:57	05:16	06:36	09:53	13:11	16:29	19:47
75%	9,75	00:37	00:55	01:14	01:32	01:51	02:28	03:05	03:42	04:55	06:09	09:14	12:18	15:23	18:28
80%	10,40	00:35	00:52	01:09	01:27	01:44	02:18	02:53	03:28	04:37	05:46	08:39	11:32	14:25	17:18
85%	11,05	00:33	00:49	01:05	01:21	01:38	02:10	02:43	03:15	04:21	05:26	08:09	10:52	13:34	16:17
90%	11,70	00:31	00:46	01:02	01:17	01:32	02:03	02:34	03:05	04:06	05:08	07:42	10:15	12:49	15:23
95%	12,35	00:29	00:44	00:58	01:13	01:27	01:57	02:26	02:55	03:53	04:51	07:17	09:43	12:09	14:34
100%	13,00	00:28	00:42	00:55	01:09	01:23	01:51	02:18	02:46	03:42	04:37	06:55	09:14	11:32	13:51
105%	13,65	00:26	00:40	00:53	01:06	01:19	01:45	02:12	02:38	03:31	04:24	06:36	08:47	10:59	13:11
110%	14,30	00:25	00:38	00:50	01:03	01:16	01:41	02:06	02:31	03:21	04:12	06:18	08:23	10:29	12:35
120%	15,60	00:23	00:35	00:46	00:58	01:09	01:32	01:55	02:18	03:05	03:51	05:46	07:42	09:37	11:32
130%	16,90	00:21	00:32	00:43	00:53	01:04	01:25	01:47	02:08	02:50	03:33	05:20	07:06	08:53	10:39

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	9,10	12,64	25,28	37,92	50,56	75,83	113,75	151,67	303,33	455,00	606,67	758,33	910,00	1516,67	2275,00
75%	9,75	13,54	27,08	40,63	54,17	81,25	121,88	162,50	325,00	487,50	650,00	812,50	975,00	1625,00	2437,50
80%	10,40	14,44	28,89	43,33	57,78	86,67	130,00	173,33	346,67	520,00	693,33	866,67	1040,00	1733,33	2600,00
85%	11,05	15,35	30,69	46,04	61,39	92,08	138,13	184,17	368,33	552,50	736,67	920,83	1105,00	1841,67	2762,50
90%	11,70	16,25	32,50	48,75	65,00	97,50	146,25	195,00	390,00	585,00	780,00	975,00	1170,00	1950,00	2925,00
95%	12,35	17,15	34,31	51,46	68,61	102,92	154,38	205,83	411,67	617,50	823,33	1029,17	1235,00	2058,33	3087,50
100%	13,00	18,06	36,11	54,17	72,22	108,33	162,50	216,67	433,33	650,00	866,67	1083,33	1300,00	2166,67	3250,00
105%	13,65	18,96	37,92	56,88	75,83	113,75	170,63	227,50	455,00	682,50	910,00	1137,50	1365,00	2275,00	3412,50
110%	14,30	19,86	39,72	59,58	79,44	119,17	178,75	238,33	476,67	715,00	953,33	1191,67	1430,00	2383,33	3575,00
120%	15,60	21,67	43,33	65,00	86,67	130,00	195,00	260,00	520,00	780,00	1040,00	1300,00	1560,00	2600,00	3900,00
130%	16,90	23,47	46,94	70,42	93,89	140,83	211,25	281,67	563,33	845,00	1126,67	1408,33	1690,00	2816,67	4225,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



**PREPARATION PHYSIQUE**  
**CONTRÔLE DES ALLURES**

VMA : 13,5 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	9,45	00:38	00:57	01:16	01:35	01:54	02:32	03:10	03:49	05:05	06:21	09:31	12:42	15:52	19:03
75%	10,13	00:36	00:53	01:11	01:29	01:47	02:22	02:58	03:33	04:44	05:56	08:53	11:51	14:49	17:47
80%	10,80	00:33	00:50	01:07	01:23	01:40	02:13	02:47	03:20	04:27	05:33	08:20	11:07	13:53	16:40
85%	11,48	00:31	00:47	01:03	01:18	01:34	02:05	02:37	03:08	04:11	05:14	07:51	10:27	13:04	15:41
90%	12,15	00:30	00:44	00:59	01:14	01:29	01:59	02:28	02:58	03:57	04:56	07:24	09:53	12:21	14:49
95%	12,83	00:28	00:42	00:56	01:10	01:24	01:52	02:20	02:48	03:45	04:41	07:01	09:21	11:42	14:02
100%	13,50	00:27	00:40	00:53	01:07	01:20	01:47	02:13	02:40	03:33	04:27	06:40	08:53	11:07	13:20
105%	14,18	00:25	00:38	00:51	01:03	01:16	01:42	02:07	02:32	03:23	04:14	06:21	08:28	10:35	12:42
110%	14,85	00:24	00:36	00:48	01:01	01:13	01:37	02:01	02:25	03:14	04:02	06:04	08:05	10:06	12:07
120%	16,20	00:22	00:33	00:44	00:56	01:07	01:29	01:51	02:13	02:58	03:42	05:33	07:24	09:16	11:07
130%	17,55	00:21	00:31	00:41	00:51	01:02	01:22	01:43	02:03	02:44	03:25	05:08	06:50	08:33	10:15

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	9,45	13,13	26,25	39,38	52,50	78,75	118,13	157,50	315,00	472,50	630,00	787,50	945,00	1575,00	2362,50
75%	10,13	14,06	28,13	42,19	56,25	84,38	126,56	168,75	337,50	506,25	675,00	843,75	1012,50	1687,50	2531,25
80%	10,80	15,00	30,00	45,00	60,00	90,00	135,00	180,00	360,00	540,00	720,00	900,00	1080,00	1800,00	2700,00
85%	11,48	15,94	31,88	47,81	63,75	95,63	143,44	191,25	382,50	573,75	765,00	956,25	1147,50	1912,50	2868,75
90%	12,15	16,88	33,75	50,63	67,50	101,25	151,88	202,50	405,00	607,50	810,00	1012,50	1215,00	2025,00	3037,50
95%	12,83	17,81	35,63	53,44	71,25	106,88	160,31	213,75	427,50	641,25	855,00	1068,75	1282,50	2137,50	3206,25
100%	13,50	18,75	37,50	56,25	75,00	112,50	168,75	225,00	450,00	675,00	900,00	1125,00	1350,00	2250,00	3375,00
105%	14,18	19,69	39,38	59,06	78,75	118,13	177,19	236,25	472,50	708,75	945,00	1181,25	1417,50	2362,50	3543,75
110%	14,85	20,63	41,25	61,88	82,50	123,75	185,63	247,50	495,00	742,50	990,00	1237,50	1485,00	2475,00	3712,50
120%	16,20	22,50	45,00	67,50	90,00	135,00	202,50	270,00	540,00	810,00	1080,00	1350,00	1620,00	2700,00	4050,00
130%	17,55	24,38	48,75	73,13	97,50	146,25	219,38	292,50	585,00	877,50	1170,00	1462,50	1755,00	2925,00	4387,50





FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



# PREPARATION PHYSIQUE

## CONTRÔLE DES ALLURES

VMA : 14 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	9,80	00:37	00:55	01:13	01:32	01:50	02:27	03:04	03:40	04:54	06:07	09:11	12:15	15:18	18:22
75%	10,50	00:34	00:51	01:09	01:26	01:43	02:17	02:51	03:26	04:34	05:43	08:34	11:26	14:17	17:09
80%	11,20	00:32	00:48	01:04	01:20	01:36	02:09	02:41	03:13	04:17	05:21	08:02	10:43	13:24	16:04
85%	11,90	00:30	00:45	01:01	01:16	01:31	02:01	02:31	03:02	04:02	05:03	07:34	10:05	12:36	15:08
90%	12,60	00:29	00:43	00:57	01:11	01:26	01:54	02:23	02:51	03:49	04:46	07:09	09:31	11:54	14:17
95%	13,30	00:27	00:41	00:54	01:08	01:21	01:48	02:15	02:42	03:37	04:31	06:46	09:01	11:17	13:32
100%	14,00	00:26	00:39	00:51	01:04	01:17	01:43	02:09	02:34	03:26	04:17	06:26	08:34	10:43	12:51
105%	14,70	00:24	00:37	00:49	01:01	01:13	01:38	02:02	02:27	03:16	04:05	06:07	08:10	10:12	12:15
110%	15,40	00:23	00:35	00:47	00:58	01:10	01:34	01:57	02:20	03:07	03:54	05:51	07:48	09:44	11:41
120%	16,80	00:21	00:32	00:43	00:54	01:04	01:26	01:47	02:09	02:51	03:34	05:21	07:09	08:56	10:43
130%	18,20	00:20	00:30	00:40	00:49	00:59	01:19	01:39	01:59	02:38	03:18	04:57	06:36	08:15	09:53

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	9,80	13,61	27,22	40,83	54,44	81,67	122,50	163,33	326,67	490,00	653,33	816,67	980,00	1633,33	2450,00
75%	10,50	14,58	29,17	43,75	58,33	87,50	131,25	175,00	350,00	525,00	700,00	875,00	1050,00	1750,00	2625,00
80%	11,20	15,56	31,11	46,67	62,22	93,33	140,00	186,67	373,33	560,00	746,67	933,33	1120,00	1866,67	2800,00
85%	11,90	16,53	33,06	49,58	66,11	99,17	148,75	198,33	396,67	595,00	793,33	991,67	1190,00	1983,33	2975,00
90%	12,60	17,50	35,00	52,50	70,00	105,00	157,50	210,00	420,00	630,00	840,00	1050,00	1260,00	2100,00	3150,00
95%	13,30	18,47	36,94	55,42	73,89	110,83	166,25	221,67	443,33	665,00	886,67	1108,33	1330,00	2216,67	3325,00
100%	14,00	19,44	38,89	58,33	77,78	116,67	175,00	233,33	466,67	700,00	933,33	1166,67	1400,00	2333,33	3500,00
105%	14,70	20,42	40,83	61,25	81,67	122,50	183,75	245,00	490,00	735,00	980,00	1225,00	1470,00	2450,00	3675,00
110%	15,40	21,39	42,78	64,17	85,56	128,33	192,50	256,67	513,33	770,00	1026,67	1283,33	1540,00	2566,67	3850,00
120%	16,80	23,33	46,67	70,00	93,33	140,00	210,00	280,00	560,00	840,00	1120,00	1400,00	1680,00	2800,00	4200,00
130%	18,20	25,28	50,56	75,83	101,11	151,67	227,50	303,33	606,67	910,00	1213,33	1516,67	1820,00	3033,33	4550,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



## PREPARATION PHYSIQUE

### CONTRÔLE DES ALLURES

VMA : 14,5 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	10,15	00:35	00:53	01:11	01:29	01:46	02:22	02:57	03:33	04:44	05:55	08:52	11:49	14:47	17:44
75%	10,88	00:33	00:50	01:06	01:23	01:39	02:12	02:46	03:19	04:25	05:31	08:17	11:02	13:48	16:33
80%	11,60	00:31	00:47	01:02	01:18	01:33	02:04	02:35	03:06	04:08	05:10	07:46	10:21	12:56	15:31
85%	12,33	00:29	00:44	00:58	01:13	01:28	01:57	02:26	02:55	03:54	04:52	07:18	09:44	12:10	14:36
90%	13,05	00:28	00:41	00:55	01:09	01:23	01:50	02:18	02:46	03:41	04:36	06:54	09:12	11:30	13:48
95%	13,78	00:26	00:39	00:52	01:05	01:18	01:45	02:11	02:37	03:29	04:21	06:32	08:43	10:53	13:04
100%	14,50	00:25	00:37	00:50	01:02	01:14	01:39	02:04	02:29	03:19	04:08	06:12	08:17	10:21	12:25
105%	15,23	00:24	00:35	00:47	00:59	01:11	01:35	01:58	02:22	03:09	03:56	05:55	07:53	09:51	11:49
110%	15,95	00:23	00:34	00:45	00:56	01:08	01:30	01:53	02:15	03:01	03:46	05:39	07:31	09:24	11:17
120%	17,40	00:21	00:31	00:41	00:52	01:02	01:23	01:43	02:04	02:46	03:27	05:10	06:54	08:37	10:21
130%	18,85	00:19	00:29	00:38	00:48	00:57	01:16	01:35	01:55	02:33	03:11	04:46	06:22	07:57	09:33

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	10,15	14,10	28,19	42,29	56,39	84,58	126,88	169,17	338,33	507,50	676,67	845,83	1015,00	1691,67	2537,50
75%	10,88	15,10	30,21	45,31	60,42	90,63	135,94	181,25	362,50	543,75	725,00	906,25	1087,50	1812,50	2718,75
80%	11,60	16,11	32,22	48,33	64,44	96,67	145,00	193,33	386,67	580,00	773,33	966,67	1160,00	1933,33	2900,00
85%	12,33	17,12	34,24	51,35	68,47	102,71	154,06	205,42	410,83	616,25	821,67	1027,08	1232,50	2054,17	3081,25
90%	13,05	18,13	36,25	54,38	72,50	108,75	163,13	217,50	435,00	652,50	870,00	1087,50	1305,00	2175,00	3262,50
95%	13,78	19,13	38,26	57,40	76,53	114,79	172,19	229,58	459,17	688,75	918,33	1147,92	1377,50	2295,83	3443,75
100%	14,50	20,14	40,28	60,42	80,56	120,83	181,25	241,67	483,33	725,00	966,67	1208,33	1450,00	2416,67	3625,00
105%	15,23	21,15	42,29	63,44	84,58	126,88	190,31	253,75	507,50	761,25	1015,00	1268,75	1522,50	2537,50	3806,25
110%	15,95	22,15	44,31	66,46	88,61	132,92	199,38	265,83	531,67	797,50	1063,33	1329,17	1595,00	2658,33	3987,50
120%	17,40	24,17	48,33	72,50	96,67	145,00	217,50	290,00	580,00	870,00	1160,00	1450,00	1740,00	2900,00	4350,00
130%	18,85	26,18	52,36	78,54	104,72	157,08	235,63	314,17	628,33	942,50	1256,67	1570,83	1885,00	3141,67	4712,50



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



## PREPARATION PHYSIQUE CONTRÔLE DES ALLURES

VMA : 15 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	10,50	00:34	00:51	01:09	01:26	01:43	02:17	02:51	03:26	04:34	05:43	08:34	11:26	14:17	17:09
75%	11,25	00:32	00:48	01:04	01:20	01:36	02:08	02:40	03:12	04:16	05:20	08:00	10:40	13:20	16:00
80%	12,00	00:30	00:45	01:00	01:15	01:30	02:00	02:30	03:00	04:00	05:00	07:30	10:00	12:30	15:00
85%	12,75	00:28	00:42	00:56	01:11	01:25	01:53	02:21	02:49	03:46	04:42	07:04	09:25	11:46	14:07
90%	13,50	00:27	00:40	00:53	01:07	01:20	01:47	02:13	02:40	03:33	04:27	06:40	08:53	11:07	13:20
95%	14,25	00:25	00:38	00:51	01:03	01:16	01:41	02:06	02:32	03:22	04:13	06:19	08:25	10:32	12:38
100%	15,00	00:24	00:36	00:48	01:00	01:12	01:36	02:00	02:24	03:12	04:00	06:00	08:00	10:00	12:00
105%	15,75	00:23	00:34	00:46	00:57	01:09	01:31	01:54	02:17	03:03	03:49	05:43	07:37	09:31	11:26
110%	16,50	00:22	00:33	00:44	00:55	01:05	01:27	01:49	02:11	02:55	03:38	05:27	07:16	09:05	10:55
120%	18,00	00:20	00:30	00:40	00:50	01:00	01:20	01:40	02:00	02:40	03:20	05:00	06:40	08:20	10:00
130%	19,50	00:18	00:28	00:37	00:46	00:55	01:14	01:32	01:51	02:28	03:05	04:37	06:09	07:42	09:14

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	10,50	14,58	29,17	43,75	58,33	87,50	131,25	175,00	350,00	525,00	700,00	875,00	1050,00	1750,00	2625,00
75%	11,25	15,63	31,25	46,88	62,50	93,75	140,63	187,50	375,00	562,50	750,00	937,50	1125,00	1875,00	2812,50
80%	12,00	16,67	33,33	50,00	66,67	100,00	150,00	200,00	400,00	600,00	800,00	1000,00	1200,00	2000,00	3000,00
85%	12,75	17,71	35,42	53,13	70,83	106,25	159,38	212,50	425,00	637,50	850,00	1062,50	1275,00	2125,00	3187,50
90%	13,50	18,75	37,50	56,25	75,00	112,50	168,75	225,00	450,00	675,00	900,00	1125,00	1350,00	2250,00	3375,00
95%	14,25	19,79	39,58	59,38	79,17	118,75	178,13	237,50	475,00	712,50	950,00	1187,50	1425,00	2375,00	3562,50
100%	15,00	20,83	41,67	62,50	83,33	125,00	187,50	250,00	500,00	750,00	1000,00	1250,00	1500,00	2500,00	3750,00
105%	15,75	21,88	43,75	65,63	87,50	131,25	196,88	262,50	525,00	787,50	1050,00	1312,50	1575,00	2625,00	3937,50
110%	16,50	22,92	45,83	68,75	91,67	137,50	206,25	275,00	550,00	825,00	1100,00	1375,00	1650,00	2750,00	4125,00
120%	18,00	25,00	50,00	75,00	100,00	150,00	225,00	300,00	600,00	900,00	1200,00	1500,00	1800,00	3000,00	4500,00
130%	19,50	27,08	54,17	81,25	108,33	162,50	243,75	325,00	650,00	975,00	1300,00	1625,00	1950,00	3250,00	4875,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



# PREPARATION PHYSIQUE

## CONTRÔLE DES ALLURES

VMA : 15,5 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	10,85	00:33	00:50	01:06	01:23	01:40	02:13	02:46	03:19	04:25	05:32	08:18	11:04	13:49	16:35
75%	11,63	00:31	00:46	01:02	01:17	01:33	02:04	02:35	03:06	04:08	05:10	07:45	10:19	12:54	15:29
80%	12,40	00:29	00:44	00:58	01:13	01:27	01:56	02:25	02:54	03:52	04:50	07:15	09:41	12:06	14:31
85%	13,18	00:27	00:41	00:55	01:08	01:22	01:49	02:17	02:44	03:39	04:33	06:50	09:06	11:23	13:40
90%	13,95	00:26	00:39	00:52	01:05	01:17	01:43	02:09	02:35	03:26	04:18	06:27	08:36	10:45	12:54
95%	14,73	00:24	00:37	00:49	01:01	01:13	01:38	02:02	02:27	03:16	04:04	06:07	08:09	10:11	12:13
100%	15,50	00:23	00:35	00:46	00:58	01:10	01:33	01:56	02:19	03:06	03:52	05:48	07:45	09:41	11:37
105%	16,28	00:22	00:33	00:44	00:55	01:06	01:28	01:51	02:13	02:57	03:41	05:32	07:22	09:13	11:04
110%	17,05	00:21	00:32	00:42	00:53	01:03	01:24	01:46	02:07	02:49	03:31	05:17	07:02	08:48	10:33
120%	18,60	00:19	00:29	00:39	00:48	00:58	01:17	01:37	01:56	02:35	03:14	04:50	06:27	08:04	09:41
130%	20,15	00:18	00:27	00:36	00:45	00:54	01:11	01:29	01:47	02:23	02:59	04:28	05:57	07:27	08:56

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	10,85	15,07	30,14	45,21	60,28	90,42	135,63	180,83	361,67	542,50	723,33	904,17	1085,00	1808,33	2712,50
75%	11,63	16,15	32,29	48,44	64,58	96,88	145,31	193,75	387,50	581,25	775,00	968,75	1162,50	1937,50	2906,25
80%	12,40	17,22	34,44	51,67	68,89	103,33	155,00	206,67	413,33	620,00	826,67	1033,33	1240,00	2066,67	3100,00
85%	13,18	18,30	36,60	54,90	73,19	109,79	164,69	219,58	439,17	658,75	878,33	1097,92	1317,50	2195,83	3293,75
90%	13,95	19,38	38,75	58,13	77,50	116,25	174,38	232,50	465,00	697,50	930,00	1162,50	1395,00	2325,00	3487,50
95%	14,73	20,45	40,90	61,35	81,81	122,71	184,06	245,42	490,83	736,25	981,67	1227,08	1472,50	2454,17	3681,25
100%	15,50	21,53	43,06	64,58	86,11	129,17	193,75	258,33	516,67	775,00	1033,33	1291,67	1550,00	2583,33	3875,00
105%	16,28	22,60	45,21	67,81	90,42	135,63	203,44	271,25	542,50	813,75	1085,00	1356,25	1627,50	2712,50	4068,75
110%	17,05	23,68	47,36	71,04	94,72	142,08	213,13	284,17	568,33	852,50	1136,67	1420,83	1705,00	2841,67	4262,50
120%	18,60	25,83	51,67	77,50	103,33	155,00	232,50	310,00	620,00	930,00	1240,00	1550,00	1860,00	3100,00	4650,00
130%	20,15	27,99	55,97	83,96	111,94	167,92	251,88	335,83	671,67	1007,50	1343,33	1679,17	2015,00	3358,33	5037,50



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



## PREPARATION PHYSIQUE

### CONTRÔLE DES ALLURES

VMA : 16 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	11,20	00:32	00:48	01:04	01:20	01:36	02:09	02:41	03:13	04:17	05:21	08:02	10:43	13:24	16:04
75%	12,00	00:30	00:45	01:00	01:15	01:30	02:00	02:30	03:00	04:00	05:00	07:30	10:00	12:30	15:00
80%	12,80	00:28	00:42	00:56	01:10	01:24	01:52	02:21	02:49	03:45	04:41	07:02	09:22	11:43	14:04
85%	13,60	00:26	00:40	00:53	01:06	01:19	01:46	02:12	02:39	03:32	04:25	06:37	08:49	11:02	13:14
90%	14,40	00:25	00:38	00:50	01:02	01:15	01:40	02:05	02:30	03:20	04:10	06:15	08:20	10:25	12:30
95%	15,20	00:24	00:36	00:47	00:59	01:11	01:35	01:58	02:22	03:09	03:57	05:55	07:54	09:52	11:51
100%	16,00	00:23	00:34	00:45	00:56	01:07	01:30	01:52	02:15	03:00	03:45	05:37	07:30	09:22	11:15
105%	16,80	00:21	00:32	00:43	00:54	01:04	01:26	01:47	02:09	02:51	03:34	05:21	07:09	08:56	10:43
110%	17,60	00:20	00:31	00:41	00:51	01:01	01:22	01:42	02:03	02:44	03:25	05:07	06:49	08:31	10:14
120%	19,20	00:19	00:28	00:38	00:47	00:56	01:15	01:34	01:52	02:30	03:08	04:41	06:15	07:49	09:22
130%	20,80	00:17	00:26	00:35	00:43	00:52	01:09	01:27	01:44	02:18	02:53	04:20	05:46	07:13	08:39

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	11,20	15,56	31,11	46,67	62,22	93,33	140,00	186,67	373,33	560,00	746,67	933,33	1120,00	1866,67	2800,00
75%	12,00	16,67	33,33	50,00	66,67	100,00	150,00	200,00	400,00	600,00	800,00	1000,00	1200,00	2000,00	3000,00
80%	12,80	17,78	35,56	53,33	71,11	106,67	160,00	213,33	426,67	640,00	853,33	1066,67	1280,00	2133,33	3200,00
85%	13,60	18,89	37,78	56,67	75,56	113,33	170,00	226,67	453,33	680,00	906,67	1133,33	1360,00	2266,67	3400,00
90%	14,40	20,00	40,00	60,00	80,00	120,00	180,00	240,00	480,00	720,00	960,00	1200,00	1440,00	2400,00	3600,00
95%	15,20	21,11	42,22	63,33	84,44	126,67	190,00	253,33	506,67	760,00	1013,33	1266,67	1520,00	2533,33	3800,00
100%	16,00	22,22	44,44	66,67	88,89	133,33	200,00	266,67	533,33	800,00	1066,67	1333,33	1600,00	2666,67	4000,00
105%	16,80	23,33	46,67	70,00	93,33	140,00	210,00	280,00	560,00	840,00	1120,00	1400,00	1680,00	2800,00	4200,00
110%	17,60	24,44	48,89	73,33	97,78	146,67	220,00	293,33	586,67	880,00	1173,33	1466,67	1760,00	2933,33	4400,00
120%	19,20	26,67	53,33	80,00	106,67	160,00	240,00	320,00	640,00	960,00	1280,00	1600,00	1920,00	3200,00	4800,00
130%	20,80	28,89	57,78	86,67	115,56	173,33	260,00	346,67	693,33	1040,00	1386,67	1733,33	2080,00	3466,67	5200,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



## PREPARATION PHYSIQUE

### CONTRÔLE DES ALLURES

VMA : 16,5 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	11,55	00:31	00:47	01:02	01:18	01:34	02:05	02:36	03:07	04:09	05:12	07:48	10:23	12:59	15:35
75%	12,38	00:29	00:44	00:58	01:13	01:27	01:56	02:25	02:55	03:53	04:51	07:16	09:42	12:07	14:33
80%	13,20	00:27	00:41	00:55	01:08	01:22	01:49	02:16	02:44	03:38	04:33	06:49	09:05	11:22	13:38
85%	14,03	00:26	00:39	00:51	01:04	01:17	01:43	02:08	02:34	03:25	04:17	06:25	08:33	10:42	12:50
90%	14,85	00:24	00:36	00:48	01:01	01:13	01:37	02:01	02:25	03:14	04:02	06:04	08:05	10:06	12:07
95%	15,68	00:23	00:34	00:46	00:57	01:09	01:32	01:55	02:18	03:04	03:50	05:44	07:39	09:34	11:29
100%	16,50	00:22	00:33	00:44	00:55	01:05	01:27	01:49	02:11	02:55	03:38	05:27	07:16	09:05	10:55
105%	17,33	00:21	00:31	00:42	00:52	01:02	01:23	01:44	02:05	02:46	03:28	05:12	06:56	08:39	10:23
110%	18,15	00:20	00:30	00:40	00:50	01:00	01:19	01:39	01:59	02:39	03:18	04:58	06:37	08:16	09:55
120%	19,80	00:18	00:27	00:36	00:45	00:55	01:13	01:31	01:49	02:25	03:02	04:33	06:04	07:35	09:05
130%	21,45	00:17	00:25	00:34	00:42	00:50	01:07	01:24	01:41	02:14	02:48	04:12	05:36	07:00	08:23

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	11,55	16,04	32,08	48,13	64,17	96,25	144,38	192,50	385,00	577,50	770,00	962,50	1155,00	1925,00	2887,50
75%	12,38	17,19	34,38	51,56	68,75	103,13	154,69	206,25	412,50	618,75	825,00	1031,25	1237,50	2062,50	3093,75
80%	13,20	18,33	36,67	55,00	73,33	110,00	165,00	220,00	440,00	660,00	880,00	1100,00	1320,00	2200,00	3300,00
85%	14,03	19,48	38,96	58,44	77,92	116,88	175,31	233,75	467,50	701,25	935,00	1168,75	1402,50	2337,50	3506,25
90%	14,85	20,63	41,25	61,88	82,50	123,75	185,63	247,50	495,00	742,50	990,00	1237,50	1485,00	2475,00	3712,50
95%	15,68	21,77	43,54	65,31	87,08	130,63	195,94	261,25	522,50	783,75	1045,00	1306,25	1567,50	2612,50	3918,75
100%	16,50	22,92	45,83	68,75	91,67	137,50	206,25	275,00	550,00	825,00	1100,00	1375,00	1650,00	2750,00	4125,00
105%	17,33	24,06	48,13	72,19	96,25	144,38	216,56	288,75	577,50	866,25	1155,00	1443,75	1732,50	2887,50	4331,25
110%	18,15	25,21	50,42	75,63	100,83	151,25	226,88	302,50	605,00	907,50	1210,00	1512,50	1815,00	3025,00	4537,50
120%	19,80	27,50	55,00	82,50	110,00	165,00	247,50	330,00	660,00	990,00	1320,00	1650,00	1980,00	3300,00	4950,00
130%	21,45	29,79	59,58	89,38	119,17	178,75	268,13	357,50	715,00	1072,50	1430,00	1787,50	2145,00	3575,00	5362,50



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



# PREPARATION PHYSIQUE

## CONTRÔLE DES ALLURES

VMA : 17 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	11,90	00:30	00:45	01:01	01:16	01:31	02:01	02:31	03:02	04:02	05:03	07:34	10:05	12:36	15:08
75%	12,75	00:28	00:42	00:56	01:11	01:25	01:53	02:21	02:49	03:46	04:42	07:04	09:25	11:46	14:07
80%	13,60	00:26	00:40	00:53	01:06	01:19	01:46	02:12	02:39	03:32	04:25	06:37	08:49	11:02	13:14
85%	14,45	00:25	00:37	00:50	01:02	01:15	01:40	02:05	02:29	03:19	04:09	06:14	08:18	10:23	12:27
90%	15,30	00:24	00:35	00:47	00:59	01:11	01:34	01:58	02:21	03:08	03:55	05:53	07:51	09:48	11:46
95%	16,15	00:22	00:33	00:45	00:56	01:07	01:29	01:51	02:14	02:58	03:43	05:34	07:26	09:17	11:09
100%	17,00	00:21	00:32	00:42	00:53	01:04	01:25	01:46	02:07	02:49	03:32	05:18	07:04	08:49	10:35
105%	17,85	00:20	00:30	00:40	00:50	01:01	01:21	01:41	02:01	02:41	03:22	05:03	06:43	08:24	10:05
110%	18,70	00:19	00:29	00:39	00:48	00:58	01:17	01:36	01:56	02:34	03:13	04:49	06:25	08:01	09:38
120%	20,40	00:18	00:26	00:35	00:44	00:53	01:11	01:28	01:46	02:21	02:56	04:25	05:53	07:21	08:49
130%	22,10	00:16	00:24	00:33	00:41	00:49	01:05	01:21	01:38	02:10	02:43	04:04	05:26	06:47	08:09

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	11,90	16,53	33,06	49,58	66,11	99,17	148,75	198,33	396,67	595,00	793,33	991,67	1190,00	1983,33	2975,00
75%	12,75	17,71	35,42	53,13	70,83	106,25	159,38	212,50	425,00	637,50	850,00	1062,50	1275,00	2125,00	3187,50
80%	13,60	18,89	37,78	56,67	75,56	113,33	170,00	226,67	453,33	680,00	906,67	1133,33	1360,00	2266,67	3400,00
85%	14,45	20,07	40,14	60,21	80,28	120,42	180,63	240,83	481,67	722,50	963,33	1204,17	1445,00	2408,33	3612,50
90%	15,30	21,25	42,50	63,75	85,00	127,50	191,25	255,00	510,00	765,00	1020,00	1275,00	1530,00	2550,00	3825,00
95%	16,15	22,43	44,86	67,29	89,72	134,58	201,88	269,17	538,33	807,50	1076,67	1345,83	1615,00	2691,67	4037,50
100%	17,00	23,61	47,22	70,83	94,44	141,67	212,50	283,33	566,67	850,00	1133,33	1416,67	1700,00	2833,33	4250,00
105%	17,85	24,79	49,58	74,38	99,17	148,75	223,13	297,50	595,00	892,50	1190,00	1487,50	1785,00	2975,00	4462,50
110%	18,70	25,97	51,94	77,92	103,89	155,83	233,75	311,67	623,33	935,00	1246,67	1558,33	1870,00	3116,67	4675,00
120%	20,40	28,33	56,67	85,00	113,33	170,00	255,00	340,00	680,00	1020,00	1360,00	1700,00	2040,00	3400,00	5100,00
130%	22,10	30,69	61,39	92,08	122,78	184,17	276,25	368,33	736,67	1105,00	1473,33	1841,67	2210,00	3683,33	5525,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



# PREPARATION PHYSIQUE

## CONTRÔLE DES ALLURES

VMA : 17,5 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	12,25	00:29	00:44	00:59	01:13	01:28	01:58	02:27	02:56	03:55	04:54	07:21	09:48	12:15	14:42
75%	13,13	00:27	00:41	00:55	01:09	01:22	01:50	02:17	02:45	03:39	04:34	06:51	09:09	11:26	13:43
80%	14,00	00:26	00:39	00:51	01:04	01:17	01:43	02:09	02:34	03:26	04:17	06:26	08:34	10:43	12:51
85%	14,88	00:24	00:36	00:48	01:01	01:13	01:37	02:01	02:25	03:14	04:02	06:03	08:04	10:05	12:06
90%	15,75	00:23	00:34	00:46	00:57	01:09	01:31	01:54	02:17	03:03	03:49	05:43	07:37	09:31	11:26
95%	16,63	00:22	00:32	00:43	00:54	01:05	01:27	01:48	02:10	02:53	03:37	05:25	07:13	09:01	10:50
100%	17,50	00:21	00:31	00:41	00:51	01:02	01:22	01:43	02:03	02:45	03:26	05:09	06:51	08:34	10:17
105%	18,38	00:20	00:29	00:39	00:49	00:59	01:18	01:38	01:58	02:37	03:16	04:54	06:32	08:10	09:48
110%	19,25	00:19	00:28	00:37	00:47	00:56	01:15	01:34	01:52	02:30	03:07	04:41	06:14	07:48	09:21
120%	21,00	00:17	00:26	00:34	00:43	00:51	01:09	01:26	01:43	02:17	02:51	04:17	05:43	07:09	08:34
130%	22,75	00:16	00:24	00:32	00:40	00:47	01:03	01:19	01:35	02:07	02:38	03:57	05:16	06:36	07:55

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	12,25	17,01	34,03	51,04	68,06	102,08	153,13	204,17	408,33	612,50	816,67	1020,83	1225,00	2041,67	3062,50
75%	13,13	18,23	36,46	54,69	72,92	109,38	164,06	218,75	437,50	656,25	875,00	1093,75	1312,50	2187,50	3281,25
80%	14,00	19,44	38,89	58,33	77,78	116,67	175,00	233,33	466,67	700,00	933,33	1166,67	1400,00	2333,33	3500,00
85%	14,88	20,66	41,32	61,98	82,64	123,96	185,94	247,92	495,83	743,75	991,67	1239,58	1487,50	2479,17	3718,75
90%	15,75	21,88	43,75	65,63	87,50	131,25	196,88	262,50	525,00	787,50	1050,00	1312,50	1575,00	2625,00	3937,50
95%	16,63	23,09	46,18	69,27	92,36	138,54	207,81	277,08	554,17	831,25	1108,33	1385,42	1662,50	2770,83	4156,25
100%	17,50	24,31	48,61	72,92	97,22	145,83	218,75	291,67	583,33	875,00	1166,67	1458,33	1750,00	2916,67	4375,00
105%	18,38	25,52	51,04	76,56	102,08	153,13	229,69	306,25	612,50	918,75	1225,00	1531,25	1837,50	3062,50	4593,75
110%	19,25	26,74	53,47	80,21	106,94	160,42	240,63	320,83	641,67	962,50	1283,33	1604,17	1925,00	3208,33	4812,50
120%	21,00	29,17	58,33	87,50	116,67	175,00	262,50	350,00	700,00	1050,00	1400,00	1750,00	2100,00	3500,00	5250,00
130%	22,75	31,60	63,19	94,79	126,39	189,58	284,38	379,17	758,33	1137,50	1516,67	1895,83	2275,00	3791,67	5687,50





FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



# PREPARATION PHYSIQUE

## CONTRÔLE DES ALLURES

VMA : 18 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	12,60	00:29	00:43	00:57	01:11	01:26	01:54	02:23	02:51	03:49	04:46	07:09	09:31	11:54	14:17
75%	13,50	00:27	00:40	00:53	01:07	01:20	01:47	02:13	02:40	03:33	04:27	06:40	08:53	11:07	13:20
80%	14,40	00:25	00:38	00:50	01:02	01:15	01:40	02:05	02:30	03:20	04:10	06:15	08:20	10:25	12:30
85%	15,30	00:24	00:35	00:47	00:59	01:11	01:34	01:58	02:21	03:08	03:55	05:53	07:51	09:48	11:46
90%	16,20	00:22	00:33	00:44	00:56	01:07	01:29	01:51	02:13	02:58	03:42	05:33	07:24	09:16	11:07
95%	17,10	00:21	00:32	00:42	00:53	01:03	01:24	01:45	02:06	02:48	03:31	05:16	07:01	08:46	10:32
100%	18,00	00:20	00:30	00:40	00:50	01:00	01:20	01:40	02:00	02:40	03:20	05:00	06:40	08:20	10:00
105%	18,90	00:19	00:29	00:38	00:48	00:57	01:16	01:35	01:54	02:32	03:10	04:46	06:21	07:56	09:31
110%	19,80	00:18	00:27	00:36	00:45	00:55	01:13	01:31	01:49	02:25	03:02	04:33	06:04	07:35	09:05
120%	21,60	00:17	00:25	00:33	00:42	00:50	01:07	01:23	01:40	02:13	02:47	04:10	05:33	06:57	08:20
130%	23,40	00:15	00:23	00:31	00:38	00:46	01:02	01:17	01:32	02:03	02:34	03:51	05:08	06:25	07:42

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	12,60	17,50	35,00	52,50	70,00	105,00	157,50	210,00	420,00	630,00	840,00	1050,00	1260,00	2100,00	3150,00
75%	13,50	18,75	37,50	56,25	75,00	112,50	168,75	225,00	450,00	675,00	900,00	1125,00	1350,00	2250,00	3375,00
80%	14,40	20,00	40,00	60,00	80,00	120,00	180,00	240,00	480,00	720,00	960,00	1200,00	1440,00	2400,00	3600,00
85%	15,30	21,25	42,50	63,75	85,00	127,50	191,25	255,00	510,00	765,00	1020,00	1275,00	1530,00	2550,00	3825,00
90%	16,20	22,50	45,00	67,50	90,00	135,00	202,50	270,00	540,00	810,00	1080,00	1350,00	1620,00	2700,00	4050,00
95%	17,10	23,75	47,50	71,25	95,00	142,50	213,75	285,00	570,00	855,00	1140,00	1425,00	1710,00	2850,00	4275,00
100%	18,00	25,00	50,00	75,00	100,00	150,00	225,00	300,00	600,00	900,00	1200,00	1500,00	1800,00	3000,00	4500,00
105%	18,90	26,25	52,50	78,75	105,00	157,50	236,25	315,00	630,00	945,00	1260,00	1575,00	1890,00	3150,00	4725,00
110%	19,80	27,50	55,00	82,50	110,00	165,00	247,50	330,00	660,00	990,00	1320,00	1650,00	1980,00	3300,00	4950,00
120%	21,60	30,00	60,00	90,00	120,00	180,00	270,00	360,00	720,00	1080,00	1440,00	1800,00	2160,00	3600,00	5400,00
130%	23,40	32,50	65,00	97,50	130,00	195,00	292,50	390,00	780,00	1170,00	1560,00	1950,00	2340,00	3900,00	5850,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



**PREPARATION PHYSIQUE**  
**CONTRÔLE DES ALLURES**

**VMA : 18,5 km/h**

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	12,95	00:28	00:42	00:56	01:09	01:23	01:51	02:19	02:47	03:42	04:38	06:57	09:16	11:35	13:54
75%	13,88	00:26	00:39	00:52	01:05	01:18	01:44	02:10	02:36	03:28	04:19	06:29	08:39	10:49	12:58
80%	14,80	00:24	00:36	00:49	01:01	01:13	01:37	02:02	02:26	03:15	04:03	06:05	08:06	10:08	12:10
85%	15,73	00:23	00:34	00:46	00:57	01:09	01:32	01:54	02:17	03:03	03:49	05:43	07:38	09:32	11:27
90%	16,65	00:22	00:32	00:43	00:54	01:05	01:26	01:48	02:10	02:53	03:36	05:24	07:12	09:01	10:49
95%	17,58	00:20	00:31	00:41	00:51	01:01	01:22	01:42	02:03	02:44	03:25	05:07	06:50	08:32	10:15
100%	18,50	00:19	00:29	00:39	00:49	00:58	01:18	01:37	01:57	02:36	03:15	04:52	06:29	08:06	09:44
105%	19,43	00:19	00:28	00:37	00:46	00:56	01:14	01:33	01:51	02:28	03:05	04:38	06:11	07:43	09:16
110%	20,35	00:18	00:27	00:35	00:44	00:53	01:11	01:28	01:46	02:22	02:57	04:25	05:54	07:22	08:51
120%	22,20	00:16	00:24	00:32	00:41	00:49	01:05	01:21	01:37	02:10	02:42	04:03	05:24	06:45	08:06
130%	24,05	00:15	00:22	00:30	00:37	00:45	01:00	01:15	01:30	02:00	02:30	03:45	04:59	06:14	07:29

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	12,95	17,99	35,97	53,96	71,94	107,92	161,88	215,83	431,67	647,50	863,33	1079,17	1295,00	2158,33	3237,50
75%	13,88	19,27	38,54	57,81	77,08	115,63	173,44	231,25	462,50	693,75	925,00	1156,25	1387,50	2312,50	3468,75
80%	14,80	20,56	41,11	61,67	82,22	123,33	185,00	246,67	493,33	740,00	986,67	1233,33	1480,00	2466,67	3700,00
85%	15,73	21,84	43,68	65,52	87,36	131,04	196,56	262,08	524,17	786,25	1048,33	1310,42	1572,50	2620,83	3931,25
90%	16,65	23,13	46,25	69,38	92,50	138,75	208,13	277,50	555,00	832,50	1110,00	1387,50	1665,00	2775,00	4162,50
95%	17,58	24,41	48,82	73,23	97,64	146,46	219,69	292,92	585,83	878,75	1171,67	1464,58	1757,50	2929,17	4393,75
100%	18,50	25,69	51,39	77,08	102,78	154,17	231,25	308,33	616,67	925,00	1233,33	1541,67	1850,00	3083,33	4625,00
105%	19,43	26,98	53,96	80,94	107,92	161,88	242,81	323,75	647,50	971,25	1295,00	1618,75	1942,50	3237,50	4856,25
110%	20,35	28,26	56,53	84,79	113,06	169,58	254,38	339,17	678,33	1017,50	1356,67	1695,83	2035,00	3391,67	5087,50
120%	22,20	30,83	61,67	92,50	123,33	185,00	277,50	370,00	740,00	1110,00	1480,00	1850,00	2220,00	3700,00	5550,00
130%	24,05	33,40	66,81	100,21	133,61	200,42	300,63	400,83	801,67	1202,50	1603,33	2004,17	2405,00	4008,33	6012,50



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



## PREPARATION PHYSIQUE CONTRÔLE DES ALLURES

VMA : 19 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	13,30	00:27	00:41	00:54	01:08	01:21	01:48	02:15	02:42	03:37	04:31	06:46	09:01	11:17	13:32
75%	14,25	00:25	00:38	00:51	01:03	01:16	01:41	02:06	02:32	03:22	04:13	06:19	08:25	10:32	12:38
80%	15,20	00:24	00:36	00:47	00:59	01:11	01:35	01:58	02:22	03:09	03:57	05:55	07:54	09:52	11:51
85%	16,15	00:22	00:33	00:45	00:56	01:07	01:29	01:51	02:14	02:58	03:43	05:34	07:26	09:17	11:09
90%	17,10	00:21	00:32	00:42	00:53	01:03	01:24	01:45	02:06	02:48	03:31	05:16	07:01	08:46	10:32
95%	18,05	00:20	00:30	00:40	00:50	01:00	01:20	01:40	02:00	02:40	03:19	04:59	06:39	08:19	09:58
100%	19,00	00:19	00:28	00:38	00:47	00:57	01:16	01:35	01:54	02:32	03:09	04:44	06:19	07:54	09:28
105%	19,95	00:18	00:27	00:36	00:45	00:54	01:12	01:30	01:48	02:24	03:00	04:31	06:01	07:31	09:01
110%	20,90	00:17	00:26	00:34	00:43	00:52	01:09	01:26	01:43	02:18	02:52	04:18	05:44	07:11	08:37
120%	22,80	00:16	00:24	00:32	00:39	00:47	01:03	01:19	01:35	02:06	02:38	03:57	05:16	06:35	07:54
130%	24,70	00:15	00:22	00:29	00:36	00:44	00:58	01:13	01:27	01:57	02:26	03:39	04:51	06:04	07:17

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	13,30	18,47	36,94	55,42	73,89	110,83	166,25	221,67	443,33	665,00	886,67	1108,33	1330,00	2216,67	3325,00
75%	14,25	19,79	39,58	59,38	79,17	118,75	178,13	237,50	475,00	712,50	950,00	1187,50	1425,00	2375,00	3562,50
80%	15,20	21,11	42,22	63,33	84,44	126,67	190,00	253,33	506,67	760,00	1013,33	1266,67	1520,00	2533,33	3800,00
85%	16,15	22,43	44,86	67,29	89,72	134,58	201,88	269,17	538,33	807,50	1076,67	1345,83	1615,00	2691,67	4037,50
90%	17,10	23,75	47,50	71,25	95,00	142,50	213,75	285,00	570,00	855,00	1140,00	1425,00	1710,00	2850,00	4275,00
95%	18,05	25,07	50,14	75,21	100,28	150,42	225,63	300,83	601,67	902,50	1203,33	1504,17	1805,00	3008,33	4512,50
100%	19,00	26,39	52,78	79,17	105,56	158,33	237,50	316,67	633,33	950,00	1266,67	1583,33	1900,00	3166,67	4750,00
105%	19,95	27,71	55,42	83,13	110,83	166,25	249,38	332,50	665,00	997,50	1330,00	1662,50	1995,00	3325,00	4987,50
110%	20,90	29,03	58,06	87,08	116,11	174,17	261,25	348,33	696,67	1045,00	1393,33	1741,67	2090,00	3483,33	5225,00
120%	22,80	31,67	63,33	95,00	126,67	190,00	285,00	380,00	760,00	1140,00	1520,00	1900,00	2280,00	3800,00	5700,00
130%	24,70	34,31	68,61	102,92	137,22	205,83	308,75	411,67	823,33	1235,00	1646,67	2058,33	2470,00	4116,67	6175,00



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



## PREPARATION PHYSIQUE

### CONTRÔLE DES ALLURES

VMA : 19,5 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	13,65	00:26	00:40	00:53	01:06	01:19	01:45	02:12	02:38	03:31	04:24	06:36	08:47	10:59	13:11
75%	14,63	00:25	00:37	00:49	01:02	01:14	01:38	02:03	02:28	03:17	04:06	06:09	08:12	10:15	12:18
80%	15,60	00:23	00:35	00:46	00:58	01:09	01:32	01:55	02:18	03:05	03:51	05:46	07:42	09:37	11:32
85%	16,58	00:22	00:33	00:43	00:54	01:05	01:27	01:49	02:10	02:54	03:37	05:26	07:14	09:03	10:52
90%	17,55	00:21	00:31	00:41	00:51	01:02	01:22	01:43	02:03	02:44	03:25	05:08	06:50	08:33	10:15
95%	18,53	00:19	00:29	00:39	00:49	00:58	01:18	01:37	01:57	02:35	03:14	04:51	06:29	08:06	09:43
100%	19,50	00:18	00:28	00:37	00:46	00:55	01:14	01:32	01:51	02:28	03:05	04:37	06:09	07:42	09:14
105%	20,48	00:18	00:26	00:35	00:44	00:53	01:10	01:28	01:45	02:21	02:56	04:24	05:52	07:20	08:47
110%	21,45	00:17	00:25	00:34	00:42	00:50	01:07	01:24	01:41	02:14	02:48	04:12	05:36	07:00	08:23
120%	23,40	00:15	00:23	00:31	00:38	00:46	01:02	01:17	01:32	02:03	02:34	03:51	05:08	06:25	07:42
130%	25,35	00:14	00:21	00:28	00:36	00:43	00:57	01:11	01:25	01:54	02:22	03:33	04:44	05:55	07:06

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	13,65	18,96	37,92	56,88	75,83	113,75	170,63	227,50	455,00	682,50	910,00	1137,50	1365,00	2275,00	3412,50
75%	14,63	20,31	40,63	60,94	81,25	121,88	182,81	243,75	487,50	731,25	975,00	1218,75	1462,50	2437,50	3656,25
80%	15,60	21,67	43,33	65,00	86,67	130,00	195,00	260,00	520,00	780,00	1040,00	1300,00	1560,00	2600,00	3900,00
85%	16,58	23,02	46,04	69,06	92,08	138,13	207,19	276,25	552,50	828,75	1105,00	1381,25	1657,50	2762,50	4143,75
90%	17,55	24,38	48,75	73,13	97,50	146,25	219,38	292,50	585,00	877,50	1170,00	1462,50	1755,00	2925,00	4387,50
95%	18,53	25,73	51,46	77,19	102,92	154,38	231,56	308,75	617,50	926,25	1235,00	1543,75	1852,50	3087,50	4631,25
100%	19,50	27,08	54,17	81,25	108,33	162,50	243,75	325,00	650,00	975,00	1300,00	1625,00	1950,00	3250,00	4875,00
105%	20,48	28,44	56,88	85,31	113,75	170,63	255,94	341,25	682,50	1023,75	1365,00	1706,25	2047,50	3412,50	5118,75
110%	21,45	29,79	59,58	89,38	119,17	178,75	268,13	357,50	715,00	1072,50	1430,00	1787,50	2145,00	3575,00	5362,50
120%	23,40	32,50	65,00	97,50	130,00	195,00	292,50	390,00	780,00	1170,00	1560,00	1950,00	2340,00	3900,00	5850,00
130%	25,35	35,21	70,42	105,63	140,83	211,25	316,88	422,50	845,00	1267,50	1690,00	2112,50	2535,00	4225,00	6337,50



FEDERATION FRANCAISE DE FOOTBALL  
LIGUE DU GRAND EST DE FOOTBALL  
COMMISSION REGIONALE D'ARBITRAGE



# PREPARATION PHYSIQUE

## CONTRÔLE DES ALLURES

VMA : 20 km/h

% VMA	V (Km/h)	Distance (m)													
		100	150	200	250	300	400	500	600	800	1000	1500	2000	2500	3000
70%	14,00	00:26	00:39	00:51	01:04	01:17	01:43	02:09	02:34	03:26	04:17	06:26	08:34	10:43	12:51
75%	15,00	00:24	00:36	00:48	01:00	01:12	01:36	02:00	02:24	03:12	04:00	06:00	08:00	10:00	12:00
80%	16,00	00:23	00:34	00:45	00:56	01:07	01:30	01:52	02:15	03:00	03:45	05:37	07:30	09:22	11:15
85%	17,00	00:21	00:32	00:42	00:53	01:04	01:25	01:46	02:07	02:49	03:32	05:18	07:04	08:49	10:35
90%	18,00	00:20	00:30	00:40	00:50	01:00	01:20	01:40	02:00	02:40	03:20	05:00	06:40	08:20	10:00
95%	19,00	00:19	00:28	00:38	00:47	00:57	01:16	01:35	01:54	02:32	03:09	04:44	06:19	07:54	09:28
100%	20,00	00:18	00:27	00:36	00:45	00:54	01:12	01:30	01:48	02:24	03:00	04:30	06:00	07:30	09:00
105%	21,00	00:17	00:26	00:34	00:43	00:51	01:09	01:26	01:43	02:17	02:51	04:17	05:43	07:09	08:34
110%	22,00	00:16	00:25	00:33	00:41	00:49	01:05	01:22	01:38	02:11	02:44	04:05	05:27	06:49	08:11
120%	24,00	00:15	00:23	00:30	00:38	00:45	01:00	01:15	01:30	02:00	02:30	03:45	05:00	06:15	07:30
130%	26,00	00:14	00:21	00:28	00:35	00:42	00:55	01:09	01:23	01:51	02:18	03:28	04:37	05:46	06:55

% VMA	V (Km/h)	Temps (s)													
		5	10	15	20	30	45	60	120	180	240	300	360	600	900
70%	14,00	19,44	38,89	58,33	77,78	116,67	175,00	233,33	466,67	700,00	933,33	1166,67	1400,00	2333,33	3500,00
75%	15,00	20,83	41,67	62,50	83,33	125,00	187,50	250,00	500,00	750,00	1000,00	1250,00	1500,00	2500,00	3750,00
80%	16,00	22,22	44,44	66,67	88,89	133,33	200,00	266,67	533,33	800,00	1066,67	1333,33	1600,00	2666,67	4000,00
85%	17,00	23,61	47,22	70,83	94,44	141,67	212,50	283,33	566,67	850,00	1133,33	1416,67	1700,00	2833,33	4250,00
90%	18,00	25,00	50,00	75,00	100,00	150,00	225,00	300,00	600,00	900,00	1200,00	1500,00	1800,00	3000,00	4500,00
95%	19,00	26,39	52,78	79,17	105,56	158,33	237,50	316,67	633,33	950,00	1266,67	1583,33	1900,00	3166,67	4750,00
100%	20,00	27,78	55,56	83,33	111,11	166,67	250,00	333,33	666,67	1000,00	1333,33	1666,67	2000,00	3333,33	5000,00
105%	21,00	29,17	58,33	87,50	116,67	175,00	262,50	350,00	700,00	1050,00	1400,00	1750,00	2100,00	3500,00	5250,00
110%	22,00	30,56	61,11	91,67	122,22	183,33	275,00	366,67	733,33	1100,00	1466,67	1833,33	2200,00	3666,67	5500,00
120%	24,00	33,33	66,67	100,00	133,33	200,00	300,00	400,00	800,00	1200,00	1600,00	2000,00	2400,00	4000,00	6000,00
130%	26,00	36,11	72,22	108,33	144,44	216,67	325,00	433,33	866,67	1300,00	1733,33	2166,67	2600,00	4333,33	6500,00