

PARCO EOLICO SV6 - BRIC DEI MORI

Il Committente: **Duferco**
Sviluppo

Sede Legale DUFERCO Sviluppo S.p.A. :
via Armando Diaz n. 248
25010, San Zeno Naviglio (BS)
P.IVA e C.F. 03594850178

Oggetto:
PARTICOLARI COSTRUTTIVI

Titolo:
TIPOLOGICO GRU DI MONTAGGIO

Il Progettista


Dott. Ing.
SILVIO MARIO
BAUDUCCO
No. 7141 L.

Ing. Silvio Mario Bauducco

Data	Emis.	Aggiornamento	Data	Contr.	Data	Autor.
02/2024	FO	Emissione	02/2024	MP	02/2024	SMB

SCALA: 1:v

FORMATO: A1

FEBBRAIO 2024

Commessa

Tip. impianto

Fase Progetto

Disciplina

Tip. Doc

Titolo

N. Elab

REV

23099

EO

DE

GN

DS

13

0003

A

RICERCA, SVILUPPO E COORDINAMENTO IMPIANTI EOLICI E FOTOVOLTAICI A CURA DI:


EMME CONSULTING S.r.l.s.

Sede Amministrativa e Operativa
via Benessia, 14 12100 Cuneo (CU)
tel 335.6012098
e-mail: emmecsrsls@gmail.com

Geom. Domenico Bresciano

PROGETTAZIONE EDILE, AMBIENTALE, STRUTTURALE ED IMPIANTISTICA A CURA DI:


BAUTEL S.R.L.

Sede Amministrativa via Maroncelli, 23 10024 Moncalieri (TO)
tel 011.6052113 - 011.6059915 e-mail: amministrazione@bautel.it
Sede Operativa Torino - via Maroncelli, 23 10024 Moncalieri (TO)
Sede Operativa Genova - via Banderali, 2/4 16121 Genova (GE)

I Tecnici:

Coord. gruppo di progettazione
Ing. Silvio Mario Bauducco

Collaboratori

Geom. Benzoni Manuel
Per. Ind. Biasin Emanuele
Ing. Occhiuto Felice
Arch. Ostino Paolo
Arch. Pelleri Martina

File: testalini.dwg

TUTTI I DIRITTI SONO RISERVATI - Questo documento è di proprietà esclusiva del progettista ivi indicato sul quale si riserva ogni diritto. Pertanto questo documento non può essere copiato, riprodotto, comunicato o divulgato ad altri o usato in qualsiasi maniera, nemmeno per fini sperimentali, senza autorizzazione scritta dallo stesso progettista.

165 t +		50 t		11-19 m		8,40 m		9.8 m/s		360°		ISO		
54 m		60 m		66 m		72 m		78 m		84 m		90 m		
LSL_2		LSL_1		LSL_2		LSL_1		LSL_2		LSL_1		LSL_2		
0 t 325 t		0 t 325 t		0 t 325 t		0 t 325 t		0 t 325 t		0 t 325 t		0 t 325 t		
m	t	t	t	t	t	t	t	t	t	t	t	t	t	m
8			-	-	-	-	-	-	-	-	-	-	-	8
10	347,0				347,0									10
12	347,0		347,0		347,0		347,0	347,0		325,0	331,0	-	-	12
16	347,0		347,0		347,0		347,0	347,0		323,0	328,0			16
20	347,0		347,0		347,0		347,0	347,0		322,0	328,0			20
24	347,0		347,0		347,0		337,0	343,0		321,0	325,0			24
28	323,0		347,0		346,0		326,0	332,0		308,0	313,0			28
34	299,0		297,0		295,0		298,0	295,0		284,0	288,0			34
42	278,0		243,3		274,0		277,0	274,0		273,0	272,0			42
49	245,3		216,3		212,3		215,0	212,6		212,6	210,6			49
54	216,3		191,0		187,0		189,0	188,0		188,0	186,0			54
59	165,6		147,0		168,3		170,3	168,6		168,6	167,3			59
64	147,0		133,0		155,3		157,3	155,5		155,3	154,3			64
69	-		123,4		151,6		153,6	152,0		151,6	150,6			69
74	-		120,0		137,0		139,0	138,0		137,0	136,0			74
78	-		123,4		123,4		127,6	126,6		125,6	124,6			78
8	-		120,0		124,8		122,8	123,8		122,8	121,8			8
10	-		117,5		117,5		117,5	116,5		115,6	114,6			10
12	-		113,0		113,0		113,0	112,0		111,3	110,3			12
16	-		107,0		107,0		107,0	106,0		107,0	106,0			16
20	-		99,5		99,5		99,5	99,0		99,5	99,0			20
24	-		90,6		90,6		90,6	91,6		90,6	91,6			24
28	-		82,1		82,1		82,1	83,5		82,1	83,5			28
34	-		80,0		80,0		80,0	82,0		80,0	82,0			34
42	-		69,5		69,5		69,5	69,0		69,5	69,0			42
49	-		66,0		66,0		66,0	66,0		66,0	66,0			49



165 t +		50 t		11-19 m			8,40 m			9.8 m/s			360°			ISO
96 m		99 m			102 m						105 m					
LSL_1		LSL_2		LSL_7			LSL_1		LSL_2		LSL_7		LSL_9		LSL_11	
0 t		0t-325t			0 t		0t-325t			0 t		0t-325t				
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m
12	179,0	216,0	242,0	266,0	166,0	253,0	196,0	218,0	239,0	267,0	274,0	-	-	-	-	12
		215,0	241,0	266,0		253,0	196,0	217,0		267,0			227,0	255,0	262,0	
14	156,0	214,0	240,0	266,0	143,0	253,0	196,0	216,0	239,0	267,0	272,0		227,0	255,0	261,0	14
		212,0	240,0	266,0		253,0	196,0	216,0		267,0			227,0	255,0	260,0	
18	121,0	208,0	240,0	266,0	110,0	253,0	196,0	216,0	239,0	265,0	269,0		227,0	253,0	258,0	18
		204,0	240,0	264,0		252,0	195,0	216,0		264,0			227,0	251,0	256,0	
22	98,5	200,0	240,0	260,0	87,5	247,0	194,0	216,0	234,0	263,0	264,0		223,0	251,0	254,0	22
		196,0	240,0	259,0		245,0	194,0	215,0		258,0			217,0	246,0	252,0	
26	81,0	192,0	240,0	259,0	71,0	244,0	193,0	215,0	229,0	255,0	257,0		216,0	242,0	249,0	26
		185,0	234,0	258,0		244,0	192,0	215,0		251,0			214,0	239,0	245,0	
30	68,5	179,0	231,0	248,0	58,5	237,0	190,0	214,0	224,0	243,0	245,0		212,0	231,0	238,0	30
		165,6	215,3	226,6		221,6	181,6	208,3		226,3			197,6	215,0	222,0	
38	47,5	152,3	203,3	204,0	39,9	202,3	170,3	198,6	194,0	210,0	213,0		184,3	199,3	206,3	38
		139,0	184,0	180,0		179,0	165,0	182,0		194,0			171,0	184,0	191,0	
46	33,5	127,6	164,6	160,6	25,2	159,6	157,3	162,6	159,3	174,0	173,0		156,3	170,0	171,6	46
		117,0	147,6	143,6		143,0	148,0	146,0		156,0			141,6	155,0	154,3	
54	23,4	107,0	133,0	129,0	15,3	129,0	134,0	132,0	128,0	140,0	140,0		127,0	139,0	139,0	54
		98,6	121,6	117,6		117,0	122,6	120,0		128,0			115,6	127,0	126,3	
62	16,5	90,3	111,6	107,6	8,5	106,6	112,3	109,6	106,3	117,3	116,3		105,4	116,3	115,3	62
		84,4	105,1	101,1		100,1	105,3	103,1		110,3			98,5	109,3	108,3	
66	13,7	82,5	103,0	99,0	5,7	98,0	103,0	101,0	97,0	108,0	107,0	-	96,0	107,0	106,0	66
		79,0	99,1	95,2		94,0	99,5	97,3		104,0			92,3	102,7	101,0	
70	11,3	75,5	95,3	91,5	-	90,5	96,0	93,6	89,6	100,0	98,5	-	88,6	98,5	97,5	70
		68,8	88,5	84,8		83,8	89,3	86,6		92,6			81,8	91,5	90,6	
78	7,4	63,5	82,5	78,5	-	77,5	83,0	80,5	76,5	86,0	85,0	-	75,5	84,5	84,0	78
		57,8	77,1	73,1		72,1	77,5	75,1		80,3			68,1	77,8	78,3	
85	4,9	54,0	73,5	69,5	-	68,3	73,9	71,4	67,2	76,0	75,3	-	62,6	72,5	73,8	85
						67,2	72,8	70,3		74,5			60,8	70,6	72,1	
88	-	-	-	-	-	65,0	70,6	68,1	62,0	71,5	71,8	-	57,1	66,8	68,8	88
							68,5	66,0		68,5			55,0	63,5	65,5	
93	-	-	-	-	-	-	-	-	-	-	-	-	50,0	59,5	59,5	93



165 t +		50 t		11-19 m				8,40 m		9.8 m/s		360°		ISO									
108 m										111 m													
LSL_1		LSL_2		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13	
0 t		0t-325t										0 t		0t-325t									
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m
13	153,0	177,0	195,0	-	217,0	242,0	251,0	-	-	-	207,0	231,0	240,0	-	13								
16	125,0	177,0	195,0	-	217,0	242,0	249,0	-	-	-	207,0	231,0	239,0	-	16								
20	100,0	176,0	195,0	-	216,0	242,0	245,0	-	-	-	203,0	231,0	236,0	-	20								
24	81,5	175,0	195,0	-	208,0	240,0	243,0	-	-	-	197,0	229,0	233,0	-	24								
28	67,5	174,0	194,0	-	203,0	236,0	236,0	-	-	-	191,0	227,0	224,0	-	28								
34	52,4	170,0	191,3	-	188,3	220,0	214,0	-	-	-	177,6	213,0	203,0	-	34								
42	36,9	158,0	181,0	-	162,0	191,0	183,0	-	-	-	153,0	190,0	173,0	-	42								
50	25,1	143,6	144,6	-	138,3	154,0	153,3	-	-	-	129,6	153,0	146,6	-	50								
58	16,7	121,6	118,6	-	115,0	126,0	126,0	-	-	-	109,0	125,0	123,3	-	58								
66	10,5	102,0	99,5	-	96,0	106,0	105,0	-	-	-	91,0	104,0	103,0	-	66								
74	5,9	87,8	85,0	-	80,5	90,1	89,6	-	-	-	74,6	89,1	86,5	-	74								
78	-	81,5	79,0	-	72,5	83,5	83,0	-	-	-	67,0	82,5	78,5	-	78								
86	-	71,1	68,6	-	57,8	72,6	69,6	-	-	-	53,2	71,6	64,1	-	86								
94	-	62,5	60,4	-	45,0	64,0	55,9	-	-	-	41,0	62,6	50,6	-	94								
98	-	61,5	59,5	-	43,4	63,0	54,5	-	-	-	39,7	61,5	49,7	-	98								



165 t +		50 t		11-19 m				8,40 m		9.8 m/s		360°		ISO									
114 m								117 m															
LSL_1		LSL_2		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13	
0 t		0t-325t								0 t		0t-325t											
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m					
13	146,0	162,0	176,0	185,0	195,0	219,0	230,0	-	-	-	-	-	-	-	-	-	13						
16	120,0	162,0	175,0	185,0	195,0	219,0	229,0	-	112,0	175,0	184,0	209,0	218,0	-	-	-	16						
20	95,5	161,0	175,0	185,0	195,0	219,0	224,0	-	88,0	175,0	183,0	209,0	214,0	-	-	-	20						
24	77,5	160,0	175,0	184,0	194,0	217,0	222,0	-	70,5	174,0	183,0	207,0	210,0	-	-	-	24						
28	64,0	159,0	174,0	183,0	192,0	214,0	213,0	-	57,5	173,0	182,0	205,0	202,0	-	-	-	28						
34	49,6	155,6	172,6	172,3	184,3	199,3	193,3	-	43,2	166,6	175,6	195,0	183,0	-	-	-	34						
42	35,0	146,0	167,0	162,0	171,0	177,0	164,0	-	28,9	156,0	163,0	178,0	155,0	-	-	-	42						
50	23,2	134,6	143,6	142,6	139,6	152,3	139,0	-	18,0	141,6	138,6	151,3	130,3	-	-	-	50						
58	14,8	119,3	117,6	116,6	113,6	124,3	116,3	-	9,7	115,6	112,6	123,3	108,3	-	-	-	58						
65	9,3	102,3	100,7	99,3	96,6	106,0	99,7	-	4,2	98,5	95,8	105,3	92,1	-	-	-	65						
70	6,2	92,6	90,6	89,3	87,1	96,0	89,1	-	-	88,6	86,1	95,0	82,0	-	-	-	70						
74	-	85,9	83,8	82,5	80,3	88,6	81,3	-	-	81,8	79,3	87,6	74,5	-	-	-	74						
82	-	74,1	72,1	71,1	68,6	76,3	67,0	-	-	70,1	67,6	75,3	60,8	-	-	-	82						
90	-	65,0	63,0	61,5	59,0	66,0	54,0	-	-	60,5	57,5	65,0	48,6	-	-	-	90						
98	-	57,2	55,2	54,0	50,7	58,1	42,2	-	-	53,2	49,1	57,1	37,0	-	-	-	98						
102	-	-	-	-	-	-	-	-	-	49,6	45,5	53,5	32,2	-	-	-	102						



165 t +		50 t		11-19 m				8,40 m		9.8 m/s		360°		ISO									
120 m								123 m															
LSL_1		LSL_2		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13	
0 t		0t-325t								0 t		0t-325t											
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m
14	132,0	138,0	153,0	160,0	176,0	199,0	206,0	214,0	213,0	153,0	166,0	190,0	197,0	204,0	190,0								14
18	103,0	137,0	152,0	160,0	176,0	199,0	206,0	214,0	95,5	153,0	166,0	190,0	197,0	204,0	190,0								18
22	83,0	136,0	151,0	160,0	176,0	198,0	205,0	212,0	76,0	152,0	166,0	189,0	196,0	203,0	190,0								22
26	68,0	135,0	151,0	160,0	175,0	197,0	204,0	211,0	61,0	151,0	164,0	188,0	195,0	201,0	188,0								26
30	56,5	134,0	150,0	158,0	173,0	196,0	202,0	207,0	49,9	150,0	164,0	187,0	193,0	198,0	187,0								30
38	39,9	129,6	147,3	148,0	163,3	181,0	186,3	179,3	33,8	143,0	155,3	173,6	179,6	174,0	186,0								38
46	27,9	123,6	141,0	139,0	149,6	164,0	165,0	152,6	22,0	135,6	145,3	159,3	162,3	146,3	181,0								46
54	18,1	116,0	128,0	127,0	124,0	135,0	135,0	126,0	12,4	126,0	123,0	134,0	134,0	120,0	148,6								54
62	11,0	107,3	106,5	105,4	102,3	111,6	111,0	102,5	5,3	104,3	101,3	110,6	111,0	97,0	114,6								62
66	8,1	100,0	97,5	96,0	93,0	102,0	102,0	92,5	-	95,5	92,0	101,0	101,0	87,0	99,0								66
72	4,4	88,5	89,8	88,6	85,3	94,3	94,0	83,1	-	87,8	84,3	93,3	93,0	78,0	87,8								72
78	-	79,0	82,8	81,8	78,3	87,1	86,6	74,6	-	80,8	77,3	86,1	85,6	69,6	80,8								78
86	-	68,8	76,5	75,5	72,0	80,5	80,0	67,0	-	74,5	71,0	79,5	79,0	62,0	69,1								86
94	-	60,5	71,1	70,1	67,0	74,8	74,3	60,6	-	69,1	65,6	73,8	73,3	56,0	64,1								94
102	-	53,0	62,0	60,5	56,5	64,5	64,0	50,5	-	59,5	55,5	63,5	63,0	45,7	60,5								102
108	-	-	54,0	52,9	48,0	56,6	56,1	44,8	-	52,2	46,9	55,5	54,6	39,2	48,6								108
			47,9	46,5	40,9	49,7	49,1	42,3	-	45,2	39,6	48,2	47,7	35,9	43,0								
															43,5								
															38,0								
															46,6								
															46,1								
															35,4								



165 t + 50 t 11-19 m 8,40 m 9.8 m/s 360° ISO

126 m															129 m				
LSL_1 LSL_2 LSL_5 LSL_7 LSL_9 LSL_11 LSL_13															LSL_5 LSL_7 LSL_9 LSL_11 LSL_13				
0 t															0 t-325t				
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m				
14	116,0	119,0	133,0	146,0	156,0	179,0	179,0	187,0	195,0	-	-	-	-	-	14				
16	112,0	118,0	132,0	146,0	156,0	179,0	179,0	187,0	195,0	102,0	137,0	148,0	171,0	178,0	186,0				
20	89,5	118,0	132,0	145,0	156,0	178,0	187,0	195,0	80,5	136,0	147,0	170,0	178,0	186,0	20				
24	72,5	116,0	131,0	145,0	156,0	176,0	186,0	194,0	64,0	136,0	147,0	168,0	177,0	185,0	24				
28	60,0	114,0	130,0	144,0	154,0	175,0	185,0	190,0	51,5	135,0	145,0	167,0	176,0	183,0	28				
34	46,0	112,3	128,6	141,6	151,6	169,6	178,6	181,6	38,1	133,3	143,0	163,3	171,0	175,6	34				
42	32,2	108,0	125,0	135,0	142,0	159,0	165,0	164,0	24,5	128,0	135,0	153,0	158,0	162,0	42				
50	22,2	103,3	119,0	127,3	131,6	144,6	145,6	142,6	15,0	121,6	125,3	140,3	141,3	142,3	50				
58	13,7	97,0	112,3	113,3	111,0	121,3	121,0	120,0	7,3	111,6	109,3	120,2	119,0	119,0	58				
62	10,4	94,1	106,5	103,3	100,6	110,3	110,0	109,1	-	102,8	99,6	109,3	109,1	108,1	62				
70	5,0	89,0	89,8	87,3	84,3	93,0	92,3	90,1	-	86,3	83,0	91,6	91,1	90,5	70				
74	-	84,8	82,8	80,3	77,1	85,5	85,0	81,1	-	79,3	75,5	84,1	83,6	82,5	74				
82	-	78,5	76,5	74,0	70,5	78,5	78,0	72,5	-	73,0	68,5	77,5	77,0	74,5	82				
90	-	68,1	66,1	63,6	59,3	67,6	67,0	58,0	-	62,6	57,5	64,0	64,0	59,3	90				
98	-	59,5	57,5	54,7	49,7	57,6	57,8	48,2	-	53,3	48,2	53,0	53,0	48,0	98				
106	-	48,2	47,5	43,3	38,2	45,5	46,0	40,3	-	41,8	36,7	40,5	41,0	38,4	106				
111	-	41,3	41,9	39,4	34,3	41,7	42,4	39,3	-	37,8	32,8	36,6	37,1	36,9	111				

65 t 125 t 165 t 205 t 245 t 285 t 325 t

165 t +		50 t		11-19 m				8,40 m				9.8 m/s				360°		ISO									
132 m										135 m																	
LSL_1		LSL_2		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13		LSL_15		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13		LSL_15	
0 t		0 t - 325 t										0 t		0 t - 325 t													
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m
15	98,5	101,0	115,0	127,0	138,0	156,0	163,0	179,0	190,0	105,0	121,0	130,0	148,0	155,0	170,0	181,0											15
18	96,5	100,0	115,0	127,0	137,0	156,0	163,0	178,0	190,0	87,0	121,0	130,0	148,0	155,0	170,0	181,0											18
22	78,0	99,5	114,0	127,0	137,0	156,0	162,0	177,0	190,0	69,0	120,0	129,0	148,0	154,0	169,0	181,0											22
26	63,5	98,0	113,0	126,0	136,0	155,0	161,0	175,0	190,0	55,0	120,0	129,0	147,0	153,0	167,0	181,0											26
30	52,5	96,0	112,0	125,0	135,0	153,0	159,0	174,0	189,0	44,6	118,0	128,0	146,0	152,0	166,0	179,5											30
38	36,9	93,3	110,0	121,3	131,3	144,3	148,6	165,3	178,5	29,1	115,6	124,6	140,0	144,3	158,6	172,0											38
46	25,6	88,8	106,0	115,3	124,6	135,0	139,0	146,0	152,0	18,0	110,3	118,6	130,0	134,0	140,6	148,0											46
54	17,3	85,0	102,0	110,0	119,0	126,0	129,0	126,0	127,0	9,8	106,0	113,0	123,0	126,0	120,0	124,3											54
60	11,8	81,0	98,0	105,0	106,0	115,0	115,0	112,0	110,0	4,5	103,0	104,0	114,0	114,0	106,0	108,1											60
66	7,3	77,0	94,0	94,0	92,5	101,0	100,0	96,0	95,8	-	93,0	91,5	100,0	99,5	91,0	94,1											66
71	4,2	73,8	86,5	84,4	82,9	90,5	90,4	83,9	85,5	-	83,8	81,9	89,5	89,5	79,4	83,5											71
78	-	70,0	75,5	73,0	71,5	78,5	78,0	68,5	72,8	-	72,5	70,5	77,5	77,0	65,0	70,6											78
86	-	64,1	65,1	62,8	60,8	67,5	67,1	54,5	61,4	-	61,8	59,0	66,5	66,2	50,9	59,5											86
94	-	54,8	56,5	54,1	51,5	58,1	57,8	43,5	51,5	-	52,3	49,8	57,1	56,6	39,8	50,0											94
102	-	46,1	49,6	46,0	43,3	50,0	49,9	35,2	43,3	-	44,5	41,9	48,5	48,3	31,3	41,5											102
110	-	36,7	41,9	39,1	36,5	42,8	42,7	30,4	36,2	-	37,6	35,0	41,1	40,9	25,9	34,4											110
116	-	29,9	32,9	34,7	32,1	38,3	38,1	28,6	31,7	-	33,2	30,6	36,6	36,4	23,6	29,8											116
119	-	-	-	-	-	-	-	-	-	-	31,2	28,6	34,5	34,3	23,0	27,8											119



LSL_15: 225 t + 50 t

165 t +		50 t		11-19 m						8,40 m		9.8 m/s			360°		ISO											
138 m										141 m																		
LSL_1		LSL_2		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13		LSL_15		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13		LSL_15		
0 t		0 t - 325 t										0 t		0 t - 325 t														
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m
15	84,5	87,5	98,5	117,0	123,0	140,0	146,0	162,0	171,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
18	84,0	86,5	98,0	117,0	122,0	140,0	146,0	162,0	171,0	82,0	111,0	116,0	130,0	139,0	153,0	163,0	18											
22	75,5	85,0	97,0	117,0	122,0	139,0	146,0	162,0	171,0	64,5	110,0	115,0	130,0	139,0	153,0	163,0	22											
26	61,5	83,5	96,0	116,0	121,0	137,0	145,0	161,0	171,0	51,0	110,0	115,0	129,0	138,0	153,0	162,0	26											
30	51,0	82,0	94,5	115,0	120,0	135,0	144,0	160,0	170,0	40,8	109,0	114,0	129,0	137,0	152,0	161,5	30											
38	35,6	79,5	92,1	112,0	117,6	128,0	137,6	146,6	163,5	25,5	106,3	111,0	125,3	131,0	140,6	156,0	38											
46	24,5	75,8	88,8	107,3	112,3	119,0	128,6	128,0	145,0	14,7	102,3	106,3	119,3	122,3	124,0	141,0	46											
54	16,3	72,0	86,0	102,0	107,0	110,0	121,0	107,0	121,8	6,6	98,0	102,0	114,0	116,0	105,0	119,0	54											
58	13,1	70,6	84,3	100,0	104,0	106,0	117,0	97,3	111,0	-	96,0	99,8	110,5	111,5	95,3	109,0	58											
66	7,1	67,0	80,5	91,0	90,0	97,5	99,0	79,5	93,1	-	88,5	87,5	97,0	97,5	76,5	90,8	66											
74	-	62,6	75,3	76,5	75,6	83,6	83,1	62,5	77,1	-	75,0	73,8	82,5	82,1	60,1	75,1	74											
82	-	58,8	69,6	60,5	63,0	71,3	70,8	48,4	64,0	-	60,0	61,5	69,9	69,5	46,0	62,0	82											
90	-	54,0	61,0	46,1	53,0	61,0	60,5	36,8	51,9	-	45,3	51,0	59,5	59,0	34,3	51,8	90											
98	-	46,3	52,8	36,1	44,5	51,9	51,4	27,8	42,2	-	35,4	42,9	50,0	49,9	25,2	42,9	98											
106	-	38,4	42,4	27,7	37,0	44,0	43,5	21,0	34,1	-	26,9	35,5	42,1	41,8	18,2	34,4	106											
114	-	31,2	31,1	20,9	30,7	37,1	36,7	16,6	27,6	-	20,0	29,2	35,3	35,0	13,3	27,5	114											
121	-	24,3	21,0	16,4	26,0	32,0	31,8	14,6	23,2	-	15,2	24,5	30,3	30,0	10,9	22,7	121											
124	-	-	-	-	-	-	-	-	-	-	13,5	22,7	28,5	28,2	10,4	21,0	124											



LSL_15: 225 t + 50 t

165 t +		50 t		11-19 m				8,40 m				9.8 m/s				360°		ISO									
144 m										147 m																	
LSL_1		LSL_2		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13		LSL_15		LSL_5		LSL_7		LSL_9		LSL_11		LSL_13		LSL_15	
0 t		0 t - 325 t										0 t		0 t - 325 t													
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m
16	73,0	75,5	86,0	102,0	106,0	126,0	133,0	142,0	156,0	90,0	97,0	101,0	120,0	126,0	135,0	148,0											16
20	72,0	74,0	85,0	101,0	105,0	125,0	133,0	141,0	156,0	70,0	96,0	100,0	119,0	126,0	135,0	148,0											20
24	65,5	72,5	84,0	101,0	105,0	124,0	132,0	140,0	156,0	55,0	95,5	100,0	119,0	125,0	135,0	148,0											24
28	53,5	71,0	82,5	100,0	104,0	124,0	130,0	139,0	154,0	43,6	95,5	99,0	118,0	124,0	133,0	146,0											28
34	40,8	68,3	80,3	99,0	101,6	122,0	127,3	135,3	152,0	30,8	94,0	97,1	116,6	122,0	130,0	144,0											34
42	27,6	65,5	78,0	96,5	99,0	118,0	119,0	127,0	144,0	18,0	92,0	95,0	112,0	116,0	122,0	137,3											42
50	18,5	62,0	74,6	92,5	92,1	112,6	110,0	117,0	127,3	9,0	88,1	90,0	107,0	108,0	112,0	122,6											50
55	13,9	59,5	72,5	90,0	89,0	109,0	105,0	111,0	114,0	4,5	86,0	86,7	104,3	103,8	107,1	110,7											55
62	8,6	56,6	69,5	86,1	83,5	102,5	98,3	102,6	98,0	-	83,1	81,8	98,3	97,8	99,3	95,3											62
69	4,0	53,7	66,0	80,7	78,7	90,0	90,0	90,2	83,5	-	78,2	77,7	87,7	88,2	88,2	81,4											69
74	-	51,6	63,8	74,3	74,3	81,1	81,6	81,0	74,1	-	72,3	73,0	79,3	79,6	79,1	72,3											74
82	-	48,3	60,6	63,4	63,4	68,9	69,0	68,2	61,5	-	61,6	61,6	66,6	67,0	66,5	59,5											82
90	-	44,9	57,0	53,5	53,5	58,5	58,5	58,0	51,2	-	51,0	51,5	56,5	56,5	56,0	49,1											90
98	-	38,4	47,5	42,0	45,0	49,0	49,4	48,8	42,5	-	40,2	43,4	47,8	47,7	46,9	40,6											98
106	-	31,7	38,0	31,4	37,3	41,2	41,2	40,7	34,9	-	30,1	36,2	39,8	39,7	37,8	33,1											106
114	-	25,0	28,5	23,0	27,5	34,4	33,3	33,8	28,3	-	21,8	27,6	32,9	32,8	30,1	26,5											114
122	-	18,0	18,3	16,6	20,2	28,7	26,4	28,1	22,6	-	15,3	19,7	27,1	25,5	23,9	20,8											122
127	-	13,8	12,1	13,7	17,0	25,7	23,0	25,1	19,6	-	12,0	16,1	24,0	21,6	20,7	17,7											127



LSL_15: 225 t + 50 t

165 t +		50 t			11-19 m				8,40 m		9.8 m/s			360°		ISO
150 m								153 m								
LSL_5, LSL_7, LSL_9, LSL_11, LSL_13, LSL_15								LSL_5, LSL_7, LSL_9, LSL_11, LSL_13, LSL_15								
0 t		0 t-325 t						0 t		0 t-325 t						
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m	
16	87,0	90,5	95,5	113,0	119,0	129,0	141,0	-	-	-	-	-	-	-	16	
18	79,0	90,0	95,5	113,0	119,0	129,0	141,0	77,0	86,0	90,5	108,0	113,0	122,0	133,0	18	
22	62,0	89,5	94,5	112,0	119,0	128,0	141,0	60,0	85,0	90,0	107,0	113,0	122,0	133,0	22	
26	49,3	89,0	94,0	112,0	118,0	128,0	139,5	47,7	84,5	89,0	107,0	112,0	121,0	132,0	26	
30	39,2	88,0	93,0	111,0	117,0	127,0	138,0	37,7	83,5	88,5	106,0	111,0	120,0	130,5	30	
38	24,5	85,8	91,0	108,3	112,6	120,3	135,0	23,1	82,0	86,6	103,3	107,6	115,3	128,0	38	
46	14,0	82,8	88,3	104,3	106,6	112,6	126,0	12,7	79,6	84,3	99,3	101,6	107,6	120,0	46	
54	6,0	79,5	84,0	99,5	100,0	104,0	110,8	4,8	76,5	81,5	94,5	96,5	100,0	107,6	54	
56	4,4	78,1	82,1	98,5	98,5	101,5	106,4	-	75,8	79,6	93,3	95,1	98,0	103,3	56	
62	-	75,1	78,6	94,6	94,1	96,3	93,6	-	73,3	76,6	90,0	90,3	93,3	91,0	62	
70	-	71,0	74,5	84,3	84,8	84,6	78,0	-	69,3	73,0	82,0	82,0	82,6	75,5	70	
78	-	66,5	65,5	71,5	71,5	71,0	64,5	-	64,0	63,5	69,5	69,5	69,0	62,5	78	
86	-	58,1	55,1	60,1	60,1	60,0	53,1	-	56,1	53,6	58,5	58,5	57,6	51,4	86	
94	-	48,9	46,1	50,9	50,9	49,8	43,8	-	47,3	44,6	49,3	49,1	46,2	41,9	94	
102	-	41,0	38,3	42,5	42,5	39,9	35,9	-	39,4	36,7	41,0	40,5	35,8	34,1	102	
110	-	30,5	30,7	35,1	34,6	31,3	29,0	-	29,0	29,6	32,9	30,6	27,1	27,2	110	
118	-	20,4	20,9	28,8	26,2	24,3	22,8	-	18,9	20,5	24,0	22,2	20,0	21,1	118	
126	-	13,2	14,0	23,4	19,2	18,6	17,6	-	11,5	13,0	16,8	15,4	14,4	15,8	126	
132	-	10,3	10,5	20,1	15,3	15,3	14,2	-	8,2	9,1	12,5	11,3	11,3	12,4	132	

 165 t 125 t 165 t 205 t 245 t 285 t 325 t

LSL_15: 225 t + 50 t

165 t +		50 t		11-19 m				8,40 m		9.8 m/s		360°		ISO									
156 m								159 m															
LSL_5				LSL_7				LSL_9				LSL_11				LSL_13				LSL_15			
0 t		0t-325t						0 t		0t-325t													
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m								
17	77,0	79,0	85,5	102,0	108,0	116,0	128,0	73,0	75,5	81,0	97,0	102,0	109,0	121,0	17								
20	67,0	78,5	85,0	102,0	108,0	116,0	127,0	65,0	74,5	80,5	96,5	101,0	109,0	121,0	20								
24	52,5	78,0	84,0	101,0	108,0	116,0	127,0	51,0	74,0	79,5	96,0	101,0	108,0	120,0	24								
28	41,8	77,0	83,5	99,5	106,0	115,0	126,0	40,3	73,5	79,0	95,5	99,5	107,0	119,0	28								
34	29,6	75,5	82,5	96,5	102,0	113,0	124,0	28,1	72,0	78,0	93,6	96,8	104,0	117,5	34								
42	17,0	74,0	81,0	91,5	96,5	108,0	119,3	15,7	70,5	76,5	89,5	92,0	99,5	113,6	42								
50	8,3	71,2	78,0	84,8	89,5	99,8	112,6	7,0	68,3	74,0	84,3	85,6	92,0	107,6	50								
54	4,7	70,0	76,5	82,0	86,5	97,0	109,0	-	67,0	72,5	82,0	83,0	89,0	103,1	54								
62	-	66,8	73,8	75,3	78,8	90,0	92,6	-	64,3	69,8	75,8	76,1	81,6	90,1	62								
70	-	63,3	71,1	68,6	72,1	80,6	78,5	-	61,6	67,1	70,6	70,3	75,0	76,0	70								
78	-	59,5	63,5	59,5	62,5	68,0	66,0	-	57,5	61,5	62,0	61,0	61,5	63,6	78								
86	-	54,8	53,7	49,0	52,4	56,3	54,6	-	53,0	51,8	52,1	50,3	46,8	52,6	86								
94	-	47,5	44,9	39,2	42,4	44,6	45,3	-	45,9	43,3	42,6	39,7	33,9	43,4	94								
102	-	39,4	36,9	29,3	32,3	34,0	37,3	-	37,9	35,3	32,6	29,3	22,7	35,4	102								
110	-	32,4	30,3	20,5	23,2	25,2	30,4	-	30,9	28,8	22,9	20,6	13,9	28,6	110								
118	-	23,4	22,2	13,1	15,6	17,9	23,9	-	20,7	20,8	14,6	13,0	6,8	22,6	118								
126	-	15,5	14,3	7,0	9,3	12,2	17,8	-	12,5	12,6	7,8	6,7	-	17,2	126								
131	-	11,2	10,4	-	6,1	9,5	14,6	-	8,3	8,6	4,3	-	-	14,0	131								
137	-	6,9	6,8	-	-	7,1	11,4	-	4,9	4,8	-	-	-	10,5	137								
140	-	-	-	-	-	-	-	-	-	-	-	-	-	9,0	140								

 165 t + 125 t 165 t 205 t 245 t 285 t 325 t

LSL_15: 225 t + 50 t

165 t +		50 t				11-19 m				8,40 m				9.8 m/s				360°		ISO
		162 m				165 m				168 m				171 m						
		LSL_9				LSL_11				LSL_13				LSL_15						
		0 t				0 t-325 t				0 t				0 t-325 t						
m	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	m		
18	70,5	91,5	96,0	104,0	115,0	68,5	86,0	90,5	98,0	109,0	65,5	92,0	104,0	63,5	87,0	97,5	18			
22	54,0	90,5	95,5	103,0	114,0	52,0	85,0	90,0	97,5	108,0	49,9	91,5	103,0	47,9	86,0	97,0	22			
26	41,9	90,0	95,0	103,0	113,5	40,1	84,5	90,0	97,5	107,5	37,7	91,0	102,5	35,8	86,0	96,2	26			
30	32,0	89,5	94,0	102,0	112,5	30,3	84,0	89,0	96,5	106,5	28,0	90,5	101,5	26,2	85,0	95,2	30			
38	17,4	87,1	90,8	98,5	110,0	15,9	82,5	87,1	94,8	104,0	13,7	89,3	99,5	12,1	84,0	93,2	38			
43	10,4	85,0	88,0	95,7	107,5	8,9	81,1	85,0	93,0	101,5	6,8	87,5	97,7	5,1	82,5	91,5	43			
46	7,0	83,5	86,0	93,5	106,0	5,3	80,0	83,2	91,2	100,0	-	86,0	96,5	-	81,3	90,5	46			
48	4,7	82,5	84,5	92,0	104,4	-	79,5	82,0	90,0	99,0	-	85,0	95,5	-	80,5	89,4	48			
54	-	79,0	80,5	87,5	99,0	-	76,5	78,5	86,0	94,8	-	81,5	91,6	-	77,5	85,6	54			
62	-	74,5	75,3	80,3	88,0	-	73,6	74,0	81,5	84,8	-	77,5	82,6	-	73,6	78,3	62			
70	-	69,6	69,8	74,7	74,5	-	70,5	69,5	74,0	72,0	-	72,6	70,5	-	69,1	67,0	70			
78	-	62,5	62,0	64,0	62,3	-	62,5	62,5	62,0	60,1	-	61,5	59,1	-	59,5	56,3	78			
86	-	53,1	51,5	49,2	51,8	-	52,6	51,9	51,6	49,8	-	51,6	48,8	-	49,4	46,5	86			
94	-	43,6	41,5	36,6	42,4	-	43,6	41,3	41,1	40,5	-	42,6	39,8	-	40,6	37,7	94			
102	-	34,0	31,1	25,5	34,4	-	35,7	30,6	29,7	32,5	-	34,4	31,6	-	32,9	29,9	102			
110	-	23,8	21,8	16,3	27,6	-	27,9	21,1	19,9	25,7	-	25,2	23,8	-	25,8	22,7	110			
118	-	15,0	13,7	8,8	21,4	-	18,3	12,9	11,8	19,8	-	17,2	16,6	-	18,0	15,5	118			
124	-	9,5	8,5	4,4	16,5	-	12,2	7,6	6,8	15,8	-	11,8	11,8	-	12,5	10,7	124			
128	-	6,2	5,4	-	13,6	-	8,5	4,4	4,3	12,9	-	8,6	9,0	-	9,2	7,8	128			
133	-	-	-	-	10,4	-	4,6	-	-	9,5	-	4,9	5,7	-	5,3	4,4	133			
135	-	-	-	-	9,2	-	-	-	-	8,3	-	-	4,4	-	-	-	135			
142	-	-	-	-	5,5	-	-	-	-	4,4	-	-	-	-	-	-	142			

 165 t + 125 t 165 t 205 t 245 t 285 t 325 t

LSL15: 225 t + 50 t