

Project:

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2012-06-01 15:09 / 1

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Calculated:

2012-06-01 15:07/2.7.490

DECIBEL - Main Result

Calculation: halas 15TW

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 1,0

Meteorological coefficient, C0:

0,0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure and Impulse tone penalty are added to WTG source noise

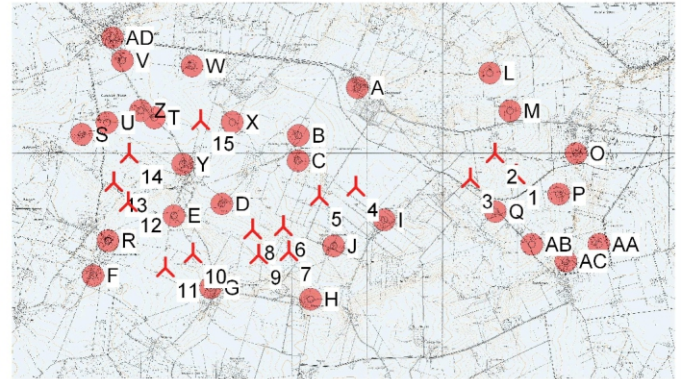
Height above ground level, when no value in NSA object:

4,0 m Don't allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive,

positive is less restrictive.:

0,0 dB(A)



Scale 1:100 000

New WTG

Noise sensitive area

WTGs

Geo DM: WGS 84	Longitude	Latitude	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	Hub height [m]	LwA,ref [dB(A)]	Pure tones	Octave data
					Valid	Manufact.	Type-generator				Creator	Name					
1	20°48,0046' East	53°00,9038' North	135,5	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
2	20°47,7493' East	53°01,0533' North	140,7	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
3	20°47,4603' East	53°00,8726' North	139,3	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
4	20°46,1053' East	53°00,8031' North	144,0	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
5	20°45,6733' East	53°00,7345' North	146,1	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
6	20°45,2528' East	53°00,5136' North	138,9	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
7	20°45,3198' East	53°00,3358' North	134,4	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
8	20°44,8860' East	53°00,4889' North	141,2	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
9	20°44,9620' East	53°00,3093' North	136,0	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
10	20°44,1823' East	53°00,3111' North	145,3	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
11	20°43,8566' East	53°00,2089' North	150,0	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
12	20°43,4080' East	53°00,6748' North	148,2	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
13	20°43,2341' East	53°00,8179' North	146,6	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
14	20°43,4136' East	53°01,0220' North	154,0	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	
15	20°44,2584' East	53°01,2673' North	154,0	VESTAS V90 2000 90.0 IOI hub: 1... Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 0 - calculated - Mode 0 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)	

*)Notice: One or more noise data for this WTG is generic or input by user

Calculation Results

Sound Level

Noise sensitive area	No.	Name	Geo DM: WGS 84			Z [m]	Imission height [m]	Demands Noise [dB(A)]	Sound Level From WTGs [dB(A)]	Demands fulfilled? Noise
			Longitude	Latitude						
A Noise sensitive point: German TA Lärm - User defined (2)			20°46,1118' East	53°01,5158' North	143,3	4,0	45,0	32,5	Yes	
B Noise sensitive point: German TA Lärm - User defined (3)			20°45,4168' East	53°01,1686' North	150,9	4,0	45,0	36,7	Yes	
C Noise sensitive point: German TA Lärm - User defined (4)			20°45,4196' East	53°00,9885' North	150,0	4,0	45,0	39,6	Yes	
D Noise sensitive point: German TA Lärm - User defined (5)			20°44,5189' East	53°00,6728' North	146,0	4,0	45,0	40,9	Yes	
E Noise sensitive point: German TA Lärm - User defined (6)			20°43,9545' East	53°00,5841' North	147,5	4,0	45,0	41,1	Yes	
F Noise sensitive point: German TA Lärm - User defined (7)			20°43,0048' East	53°00,1493' North	154,7	4,0	45,0	35,3	Yes	
G Noise sensitive point: German TA Lärm - User defined (8)			20°44,3975' East	53°00,0704' North	144,8	4,0	45,0	40,7	Yes	
H Noise sensitive point: German TA Lärm - User defined (9)			20°45,5835' East	52°59,9964' North	141,4	4,0	45,0	37,8	Yes	
I Noise sensitive point: German TA Lärm - User defined (10)			20°46,4458' East	53°00,5698' North	140,0	4,0	45,0	38,3	Yes	
J Noise sensitive point: German TA Lärm - User defined (11)			20°45,8496' East	53°00,3795' North	146,0	4,0	45,0	40,4	Yes	
K Noise sensitive point: German TA Lärm - User defined (12)			20°43,1731' East	53°00,3973' North	152,6	4,0	45,0	39,2	Yes	
L Noise sensitive point: German TA Lärm - User defined (13)			20°47,6784' East	53°01,0608' North	135,8	4,0	45,0	32,5	Yes	
M Noise sensitive point: German TA Lärm - User defined (14)			20°47,9248' East	53°01,3589' North	130,8	4,0	45,0	37,4	Yes	
N Noise sensitive point: German TA Lärm - User defined (15)			20°47,9248' East	53°01,3589' North	130,8	4,0	40,0	37,4	Yes	
O Noise sensitive point: German TA Lärm - User defined (16)			20°48,7133' East	53°01,0608' North	122,0	4,0	40,0	34,1	Yes	
P Noise sensitive point: German TA Lärm - User defined (17)			20°48,5125' East	53°00,7681' North	130,0	4,0	45,0	36,5	Yes	
Q Noise sensitive point: German TA Lärm - User defined (19)			20°47,7620' East	53°00,6374' North	134,5	4,0	45,0	39,7	Yes	
R Noise sensitive point: German TA Lärm - User defined (21)			20°43,1749' East	53°00,4011' North	152,5	4,0	45,0	39,2	Yes	
S Noise sensitive point: German TA Lärm - User defined (22)			20°42,8489' East	53°01,1598' North	155,7	4,0	40,0	37,4	Yes	
T Noise sensitive point: German TA Lärm - User defined (23)			20°43,7094' East	53°01,2848' North	158,0	4,0	45,0	39,2	Yes	
U Noise sensitive point: German TA Lärm - User defined (24)			20°43,1461' East	53°01,2451' North	156,1	4,0	40,0	38,9	Yes	
V Noise sensitive point: German TA Lärm - User defined (25)			20°43,3213' East	53°01,6921' North	161,4	4,0	40,0	32,4	Yes	
W Noise sensitive point: German TA Lärm - User defined (26)			20°44,1463' East	53°01,6590' North	155,0	4,0	45,0	35,0	Yes	
X Noise sensitive point: German TA Lärm - User defined (27)			20°44,6336' East	53°01,2576' North	150,0	4,0	45,0	39,7	Yes	

To be continued on next page...

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DECIBEL - Main Result

Calculation: halas 15TW

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Noise sensitive area		Geo DM: WGS 84			Imission height	Demands Noise	Sound Level From WTGs	Demands fulfilled ? Noise
No.	Name	Longitude	Latitude	Z				
	Y Noise sensitive point: German TA Lärm - User defined (28)	20°44,0488' East	53°00,9533' North	151,3	[m]	[dB(A)]	[dB(A)]	Yes
	Z Noise sensitive point: German TA Lärm - User defined (29)	20°43,5446' East	53°01,3345' North	158,0	[m]	[dB(A)]	[dB(A)]	Yes
	AA Noise sensitive point: German TA Lärm - User defined (30)	20°48,9943' East	53°00,4108' North	133,3	[m]	[dB(A)]	[dB(A)]	Yes
	AB Noise sensitive point: German TA Lärm - User defined (31)	20°48,1985' East	53°00,4068' North	132,0	[m]	[dB(A)]	[dB(A)]	Yes
	AC Noise sensitive point: German TA Lärm - User defined (32)	20°48,6041' East	53°00,2874' North	134,8	[m]	[dB(A)]	[dB(A)]	Yes
	AD Noise sensitive point: German TA Lärm - User defined (33)	20°43,2021' East	53°01,8549' North	159,2	[m]	[dB(A)]	[dB(A)]	Yes

Distances (m)

NSA	WTG														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	2394	2015	1917	1320	1527	2089	2357	2341	2576	3098	3489	3391	3456	3141	2115
B	2924	2607	2341	1023	853	1227	1547	1391	1671	2101	2486	2417	2516	2248	1303
C	2884	2598	2283	837	549	899	1214	1100	1358	1864	2262	2315	2455	2235	1392
D	3906	3666	3297	1783	1291	869	1089	532	835	768	1132	1238	1456	1391	1139
E	4550	4315	3941	2430	1935	1452	1589	1053	1233	566	703	631	912	1010	1310
F	5742	5543	5140	3660	3164	2593	2602	2188	2200	1346	955	1072	1265	1679	2497
G	4304	4153	3721	2337	1879	1257	1139	947	769	506	655	1571	1896	2075	2222
H	3178	3107	2647	1603	1371	1026	694	1198	903	1666	1964	2730	3027	3074	2778
I	1843	1706	1261	575	913	1333	1327	1744	1722	2567	2961	3389	3607	3480	2757
J	2590	2457	2013	835	686	710	596	1092	997	1862	2243	2774	3024	2963	2418
K	5463	5240	4856	3351	2854	2327	2394	1916	2000	1136	837	577	782	1188	2014
L	1393	1071	1423	2327	2782	3402	3557	3761	3891	4597	5006	5075	5174	4882	3868
M	848	599	1039	2273	2762	3363	3466	3749	3831	4599	5008	5188	5320	5063	4087
N	848	599	1039	2273	2762	3363	3466	3749	3831	4599	5008	5188	5320	5063	4087
O	841	1074	1438	2944	3440	3986	4012	4393	4405	5235	5636	5953	6120	5903	4976
P	619	1001	1188	2682	3163	3662	3646	4073	4046	4898	5290	5689	5880	5698	4827
Q	563	770	550	1871	2333	2805	2777	3215	3178	4033	4423	4850	5054	4895	4072
R	5460	5236	4853	3348	2851	2324	2393	1913	1998	1135	839	570	775	1180	2008
S	5762	5461	5164	3687	3243	2933	3148	2587	2833	2163	2088	1093	765	679	1582
T	4836	4520	4247	2814	2413	2235	2512	1972	2283	1879	1999	1179	1014	588	612
U	5448	5139	4855	3396	2970	2710	2950	2391	2664	2080	2076	1096	797	509	1239
V	5417	5072	4854	3511	3164	3065	3357	2829	3147	2732	2811	1887	1622	1245	1307
W	4519	4167	3968	2697	2413	2454	2778	2318	2660	2497	2705	2000	1860	1435	736
X	3812	3491	3228	1843	1510	1541	1871	1451	1794	1824	2127	1740	1759	1427	418
Y	4407	4126	3803	2307	1854	1569	1820	1269	1568	1199	1395	881	941	719	627
Z	5031	4712	4445	3017	2619	2436	2708	2165	2470	2024	2113	1231	1017	597	805
AA	1431	1827	1911	3299	3748	4172	4096	4579	4496	5364	5736	6242	6460	6318	5508
AB	945	1298	1192	2444	2878	3287	3210	3693	3610	4478	4851	5359	5582	5450	4668
AC	1323	1708	1673	2943	3368	3757	3660	4159	4058	4926	5291	5832	6062	5939	5169
AD	5632	5278	5080	3775	3447	3375	3672	3150	3470	3061	3135	2198	1921	1561	1603

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DECIBEL - Detailed results**Calculation:** halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s**Assumptions**

Calculated L(DW) = LWA,ref + K + Dc - (Adiv + Aatm + Agr + Abar + Amisc) - Cmet
 (when calculated with ground attenuation, then Dc = Domega)

LWA,ref:	Sound pressure level at WTG
K:	Pure tone
Dc:	Directivity correction
Adiv:	the attenuation due to geometrical divergence
Aatm:	the attenuation due to atmospheric absorption
Agr:	the attenuation due to ground effect
Abar:	the attenuation due to a barrier
Amisc:	the attenuation due to miscellaneous other effects
Cmet:	Meteorological correction

Calculation Results**Noise sensitive area: A Noise sensitive point: German TA Lärm - User defined (2)****WTG****Wind speed: 8,0 m/s**

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	2 393	2 403	19,24	104,0	0,00	78,62	-	-	0,00	0,00	-	0,00
2	2 015	2 024	21,38	104,0	0,00	77,12	-	-	0,00	0,00	-	0,00
3	1 917	1 925	21,99	104,0	0,00	76,69	-	-	0,00	0,00	-	0,00
4	1 320	1 325	26,38	104,0	0,00	73,45	-	-	0,00	0,00	-	0,00
5	1 527	1 533	24,70	104,0	0,00	74,71	-	-	0,00	0,00	-	0,00
6	2 088	2 094	20,96	104,0	0,00	77,42	-	-	0,00	0,00	-	0,00
7	2 357	2 362	19,46	104,0	0,00	78,47	-	-	0,00	0,00	-	0,00
8	2 341	2 348	19,54	104,0	0,00	78,41	-	-	0,00	0,00	-	0,00
9	2 576	2 582	18,33	104,0	0,00	79,24	-	-	0,00	0,00	-	0,00
10	3 098	3 107	15,94	104,0	0,00	80,85	-	-	0,00	0,00	-	0,00
11	3 488	3 499	14,39	104,0	0,00	81,88	-	-	0,00	0,00	-	0,00
12	3 390	3 403	14,75	104,0	0,00	81,64	-	-	0,00	0,00	-	0,00
13	3 455	3 469	14,50	104,0	0,00	81,80	-	-	0,00	0,00	-	0,00
14	3 141	3 154	15,74	104,0	0,00	80,98	-	-	0,00	0,00	-	0,00
15	2 114	2 125	20,78	104,0	0,00	77,55	-	-	0,00	0,00	-	0,00
Sum	32,46											

Sum 32,46

- Data undefined due to calculation with octave data

Noise sensitive area: B Noise sensitive point: German TA Lärm - User defined (3)**WTG****Wind speed: 8,0 m/s**

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	2 924	2 936	16,68	104,0	0,00	80,36	-	-	0,00	0,00	-	0,00
2	2 607	2 618	18,16	104,0	0,00	79,36	-	-	0,00	0,00	-	0,00
3	2 341	2 352	19,52	104,0	0,00	78,43	-	-	0,00	0,00	-	0,00
4	1 023	1 030	29,21	104,0	0,00	71,26	-	-	0,00	0,00	-	0,00
5	853	860	31,18	104,0	0,00	69,69	-	-	0,00	0,00	-	0,00
6	1 227	1 232	27,21	104,0	0,00	72,81	-	-	0,00	0,00	-	0,00
7	1 547	1 550	24,57	104,0	0,00	74,81	-	-	0,00	0,00	-	0,00
8	1 391	1 396	25,79	104,0	0,00	73,90	-	-	0,00	0,00	-	0,00
9	1 670	1 675	23,66	104,0	0,00	75,48	-	-	0,00	0,00	-	0,00
10	2 101	2 108	20,88	104,0	0,00	77,48	-	-	0,00	0,00	-	0,00
11	2 486	2 494	18,77	104,0	0,00	78,94	-	-	0,00	0,00	-	0,00
12	2 417	2 428	19,12	104,0	0,00	78,70	-	-	0,00	0,00	-	0,00
13	2 516	2 527	18,61	104,0	0,00	79,05	-	-	0,00	0,00	-	0,00
14	2 247	2 259	20,02	104,0	0,00	78,08	-	-	0,00	0,00	-	0,00
15	1 303	1 312	26,50	104,0	0,00	73,36	-	-	0,00	0,00	-	0,00
Sum	36,69											

Sum 36,69

- Data undefined due to calculation with octave data

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DECIBEL - Detailed results

Calculation: halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s

Noise sensitive area: C Noise sensitive point: German TA Lärm - User defined (4)

WTG												
Wind speed: 8,0 m/s												
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2 884	2 896	16,86	104,0	0,00	80,24	-	-	0,00	0,00	-	0,00
2	2 598	2 609	18,20	104,0	0,00	79,33	-	-	0,00	0,00	-	0,00
3	2 283	2 294	19,83	104,0	0,00	78,21	-	-	0,00	0,00	-	0,00
4	837	846	31,36	104,0	0,00	69,54	-	-	0,00	0,00	-	0,00
5	549	558	35,72	104,0	0,00	65,94	-	-	0,00	0,00	-	0,00
6	899	905	30,63	104,0	0,00	70,13	-	-	0,00	0,00	-	0,00
7	1 214	1 218	27,34	104,0	0,00	72,72	-	-	0,00	0,00	-	0,00
8	1 100	1 106	28,43	104,0	0,00	71,87	-	-	0,00	0,00	-	0,00
9	1 357	1 362	26,07	104,0	0,00	73,68	-	-	0,00	0,00	-	0,00
10	1 864	1 871	22,33	104,0	0,00	76,44	-	-	0,00	0,00	-	0,00
11	2 262	2 270	19,96	104,0	0,00	78,12	-	-	0,00	0,00	-	0,00
12	2 315	2 325	19,66	104,0	0,00	78,33	-	-	0,00	0,00	-	0,00
13	2 455	2 466	18,92	104,0	0,00	78,84	-	-	0,00	0,00	-	0,00
14	2 235	2 246	20,09	104,0	0,00	78,03	-	-	0,00	0,00	-	0,00
15	1 393	1 401	25,74	104,0	0,00	73,93	-	-	0,00	0,00	-	0,00

Sum 39,55

- Data undefined due to calculation with octave data

Noise sensitive area: D Noise sensitive point: German TA Lärm - User defined (5)

WTG												
Wind speed: 8,0 m/s												
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	3 906	3 922	12,91	104,0	0,00	82,87	-	-	0,00	0,00	-	0,00
2	3 667	3 681	13,73	104,0	0,00	82,32	-	-	0,00	0,00	-	0,00
3	3 297	3 311	15,10	104,0	0,00	81,40	-	-	0,00	0,00	-	0,00
4	1 783	1 793	22,85	104,0	0,00	76,07	-	-	0,00	0,00	-	0,00
5	1 291	1 300	26,60	104,0	0,00	73,28	-	-	0,00	0,00	-	0,00
6	869	877	30,97	104,0	0,00	69,86	-	-	0,00	0,00	-	0,00
7	1 089	1 096	28,53	104,0	0,00	71,79	-	-	0,00	0,00	-	0,00
8	532	542	36,02	104,0	0,00	65,68	-	-	0,00	0,00	-	0,00
9	835	841	31,41	104,0	0,00	69,50	-	-	0,00	0,00	-	0,00
10	768	775	32,29	104,0	0,00	68,79	-	-	0,00	0,00	-	0,00
11	1 132	1 140	28,09	104,0	0,00	72,14	-	-	0,00	0,00	-	0,00
12	1 238	1 247	27,08	104,0	0,00	72,92	-	-	0,00	0,00	-	0,00
13	1 456	1 465	25,22	104,0	0,00	74,32	-	-	0,00	0,00	-	0,00
14	1 391	1 400	25,75	104,0	0,00	73,92	-	-	0,00	0,00	-	0,00
15	1 139	1 145	28,03	104,0	0,00	72,18	-	-	0,00	0,00	-	0,00

Sum 40,89

- Data undefined due to calculation with octave data

Noise sensitive area: E Noise sensitive point: German TA Lärm - User defined (6)

WTG												
Wind speed: 8,0 m/s												
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	4 551	4 569	10,92	104,0	0,00	84,20	-	-	0,00	0,00	-	0,00
2	4 316	4 333	11,61	104,0	0,00	83,74	-	-	0,00	0,00	-	0,00
3	3 942	3 958	12,79	104,0	0,00	82,95	-	-	0,00	0,00	-	0,00
4	2 430	2 441	19,05	104,0	0,00	78,75	-	-	0,00	0,00	-	0,00
5	1 935	1 945	21,86	104,0	0,00	76,78	-	-	0,00	0,00	-	0,00
6	1 452	1 461	25,26	104,0	0,00	74,29	-	-	0,00	0,00	-	0,00
7	1 589	1 597	24,22	104,0	0,00	75,07	-	-	0,00	0,00	-	0,00
8	1 053	1 061	28,88	104,0	0,00	71,51	-	-	0,00	0,00	-	0,00
9	1 232	1 240	27,14	104,0	0,00	72,87	-	-	0,00	0,00	-	0,00
10	566	575	35,41	104,0	0,00	66,20	-	-	0,00	0,00	-	0,00
11	703	712	33,20	104,0	0,00	68,04	-	-	0,00	0,00	-	0,00
12	631	642	34,27	104,0	0,00	67,15	-	-	0,00	0,00	-	0,00
13	912	920	30,44	104,0	0,00	70,28	-	-	0,00	0,00	-	0,00
14	1 010	1 018	29,34	104,0	0,00	71,16	-	-	0,00	0,00	-	0,00
15	1 310	1 316	26,46	104,0	0,00	73,38	-	-	0,00	0,00	-	0,00

Sum 41,06

- Data undefined due to calculation with octave data

WindPRO is developed by EMD International A/S, Niels Jernesvej 10, DK-9220 Aalborg O, Tlf. +45 96 35 44 44, Fax +45 96 35 44 46, e-mail: windpro@emd.dk

Project:

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Calculated:

2012-06-01 15:07/2.7.490

DECIBEL - Detailed results

Calculation: halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s

Noise sensitive area: F Noise sensitive point: German TA Lärm - User defined (7)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	5 743	5 764	7,87	104,0	0,00	86,21	-	-	0,00	0,00	-	0,00
2	5 545	5 565	8,33	104,0	0,00	85,91	-	-	0,00	0,00	-	0,00
3	5 142	5 161	9,32	104,0	0,00	85,25	-	-	0,00	0,00	-	0,00
4	3 660	3 674	13,76	104,0	0,00	82,30	-	-	0,00	0,00	-	0,00
5	3 164	3 177	15,64	104,0	0,00	81,04	-	-	0,00	0,00	-	0,00
6	2 594	2 605	18,22	104,0	0,00	79,31	-	-	0,00	0,00	-	0,00
7	2 602	2 613	18,18	104,0	0,00	79,34	-	-	0,00	0,00	-	0,00
8	2 188	2 198	20,36	104,0	0,00	77,84	-	-	0,00	0,00	-	0,00
9	2 201	2 210	20,29	104,0	0,00	77,89	-	-	0,00	0,00	-	0,00
10	1 346	1 354	26,14	104,0	0,00	73,63	-	-	0,00	0,00	-	0,00
11	955	964	29,94	104,0	0,00	70,68	-	-	0,00	0,00	-	0,00
12	1 072	1 078	28,71	104,0	0,00	71,65	-	-	0,00	0,00	-	0,00
13	1 265	1 269	26,87	104,0	0,00	73,07	-	-	0,00	0,00	-	0,00
14	1 679	1 684	23,59	104,0	0,00	75,53	-	-	0,00	0,00	-	0,00
15	2 498	2 504	18,72	104,0	0,00	78,97	-	-	0,00	0,00	-	0,00
Sum	35,26											

- Data undefined due to calculation with octave data

Noise sensitive area: G Noise sensitive point: German TA Lärm - User defined (8)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	4 305	4 321	11,65	104,0	0,00	83,71	-	-	0,00	0,00	-	0,00
2	4 155	4 169	12,12	104,0	0,00	83,40	-	-	0,00	0,00	-	0,00
3	3 722	3 735	13,54	104,0	0,00	82,45	-	-	0,00	0,00	-	0,00
4	2 337	2 346	19,55	104,0	0,00	78,41	-	-	0,00	0,00	-	0,00
5	1 880	1 887	22,23	104,0	0,00	76,52	-	-	0,00	0,00	-	0,00
6	1 258	1 264	26,92	104,0	0,00	73,04	-	-	0,00	0,00	-	0,00
7	1 139	1 146	28,02	104,0	0,00	72,19	-	-	0,00	0,00	-	0,00
8	947	954	30,05	104,0	0,00	70,59	-	-	0,00	0,00	-	0,00
9	769	777	32,27	104,0	0,00	68,80	-	-	0,00	0,00	-	0,00
10	506	517	36,50	104,0	0,00	65,27	-	-	0,00	0,00	-	0,00
11	655	666	33,89	104,0	0,00	67,47	-	-	0,00	0,00	-	0,00
12	1 571	1 578	24,36	104,0	0,00	74,96	-	-	0,00	0,00	-	0,00
13	1 897	1 904	22,12	104,0	0,00	76,59	-	-	0,00	0,00	-	0,00
14	2 076	2 082	21,03	104,0	0,00	77,37	-	-	0,00	0,00	-	0,00
15	2 222	2 227	20,20	104,0	0,00	77,95	-	-	0,00	0,00	-	0,00
Sum	40,69											

- Data undefined due to calculation with octave data

Noise sensitive area: H Noise sensitive point: German TA Lärm - User defined (9)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	3 179	3 189	15,59	104,0	0,00	81,07	-	-	0,00	0,00	-	0,00
2	3 107	3 117	15,89	104,0	0,00	80,87	-	-	0,00	0,00	-	0,00
3	2 647	2 656	17,97	104,0	0,00	79,48	-	-	0,00	0,00	-	0,00
4	1 603	1 609	24,13	104,0	0,00	75,13	-	-	0,00	0,00	-	0,00
5	1 371	1 376	25,95	104,0	0,00	73,77	-	-	0,00	0,00	-	0,00
6	1 026	1 032	29,19	104,0	0,00	71,28	-	-	0,00	0,00	-	0,00
7	694	701	33,35	104,0	0,00	67,92	-	-	0,00	0,00	-	0,00
8	1 198	1 205	27,46	104,0	0,00	72,62	-	-	0,00	0,00	-	0,00
9	903	910	30,56	104,0	0,00	70,18	-	-	0,00	0,00	-	0,00
10	1 666	1 675	23,65	104,0	0,00	75,48	-	-	0,00	0,00	-	0,00
11	1 964	1 974	21,68	104,0	0,00	76,91	-	-	0,00	0,00	-	0,00
12	2 730	2 741	17,57	104,0	0,00	79,76	-	-	0,00	0,00	-	0,00
13	3 028	3 039	16,23	104,0	0,00	80,65	-	-	0,00	0,00	-	0,00
14	3 075	3 085	16,03	104,0	0,00	80,78	-	-	0,00	0,00	-	0,00
15	2 779	2 786	17,36	104,0	0,00	79,90	-	-	0,00	0,00	-	0,00
Sum	37,82											

Project:

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2012-06-01 15:07/2.7.490

DECIBEL - Detailed results**Calculation: halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s****Noise sensitive area: I Noise sensitive point: German TA Lärm - User defined (10)**

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	1 843	1 852	22,45	104,0	0,00	76,35	-	-	0,00	0,00	-	0,00
2	1 706	1 714	23,38	104,0	0,00	75,68	-	-	0,00	0,00	-	0,00
3	1 262	1 270	26,87	104,0	0,00	73,07	-	-	0,00	0,00	-	0,00
4	575	586	35,22	104,0	0,00	66,36	-	-	0,00	0,00	-	0,00
5	913	923	30,42	104,0	0,00	70,30	-	-	0,00	0,00	-	0,00
6	1 333	1 342	26,24	104,0	0,00	73,56	-	-	0,00	0,00	-	0,00
7	1 327	1 335	26,29	104,0	0,00	73,51	-	-	0,00	0,00	-	0,00
8	1 744	1 754	23,11	104,0	0,00	75,88	-	-	0,00	0,00	-	0,00
9	1 722	1 731	23,26	104,0	0,00	75,77	-	-	0,00	0,00	-	0,00
10	2 567	2 579	18,35	104,0	0,00	79,23	-	-	0,00	0,00	-	0,00
11	2 961	2 974	16,51	104,0	0,00	80,47	-	-	0,00	0,00	-	0,00
12	3 390	3 404	14,74	104,0	0,00	81,64	-	-	0,00	0,00	-	0,00
13	3 607	3 622	13,94	104,0	0,00	82,18	-	-	0,00	0,00	-	0,00
14	3 480	3 495	14,41	104,0	0,00	81,87	-	-	0,00	0,00	-	0,00
15	2 758	2 769	17,44	104,0	0,00	79,85	-	-	0,00	0,00	-	0,00
Sum	38,34											

Sum 38,34
 - Data undefined due to calculation with octave data

Noise sensitive area: J Noise sensitive point: German TA Lärm - User defined (11)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	2 590	2 600	18,24	104,0	0,00	79,30	-	-	0,00	0,00	-	0,00
2	2 457	2 466	18,92	104,0	0,00	78,84	-	-	0,00	0,00	-	0,00
3	2 014	2 022	21,39	104,0	0,00	77,12	-	-	0,00	0,00	-	0,00
4	835	842	31,41	104,0	0,00	69,51	-	-	0,00	0,00	-	0,00
5	686	695	33,45	104,0	0,00	67,84	-	-	0,00	0,00	-	0,00
6	710	718	33,09	104,0	0,00	68,13	-	-	0,00	0,00	-	0,00
7	596	605	34,89	104,0	0,00	66,63	-	-	0,00	0,00	-	0,00
8	1 092	1 101	28,47	104,0	0,00	71,83	-	-	0,00	0,00	-	0,00
9	997	1 005	29,48	104,0	0,00	71,05	-	-	0,00	0,00	-	0,00
10	1 862	1 872	22,33	104,0	0,00	76,44	-	-	0,00	0,00	-	0,00
11	2 243	2 254	20,05	104,0	0,00	78,06	-	-	0,00	0,00	-	0,00
12	2 774	2 787	17,35	104,0	0,00	79,90	-	-	0,00	0,00	-	0,00
13	3 025	3 037	16,23	104,0	0,00	80,65	-	-	0,00	0,00	-	0,00
14	2 963	2 975	16,50	104,0	0,00	80,47	-	-	0,00	0,00	-	0,00
15	2 418	2 426	19,12	104,0	0,00	78,70	-	-	0,00	0,00	-	0,00
Sum	40,45											

Sum 40,45
 - Data undefined due to calculation with octave data

Noise sensitive area: K Noise sensitive point: German TA Lärm - User defined (12)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	5 464	5 484	8,52	104,0	0,00	85,78	-	-	0,00	0,00	-	0,00
2	5 241	5 260	9,07	104,0	0,00	85,42	-	-	0,00	0,00	-	0,00
3	4 857	4 875	10,07	104,0	0,00	84,76	-	-	0,00	0,00	-	0,00
4	3 352	3 365	14,89	104,0	0,00	81,54	-	-	0,00	0,00	-	0,00
5	2 854	2 866	16,99	104,0	0,00	80,15	-	-	0,00	0,00	-	0,00
6	2 327	2 337	19,59	104,0	0,00	78,37	-	-	0,00	0,00	-	0,00
7	2 394	2 405	19,23	104,0	0,00	78,62	-	-	0,00	0,00	-	0,00
8	1 916	1 925	21,99	104,0	0,00	76,69	-	-	0,00	0,00	-	0,00
9	1 999	2 009	21,47	104,0	0,00	77,06	-	-	0,00	0,00	-	0,00
10	1 136	1 144	28,05	104,0	0,00	72,17	-	-	0,00	0,00	-	0,00
11	837	846	31,35	104,0	0,00	69,55	-	-	0,00	0,00	-	0,00
12	577	586	35,22	104,0	0,00	66,35	-	-	0,00	0,00	-	0,00
13	782	789	32,10	104,0	0,00	68,94	-	-	0,00	0,00	-	0,00
14	1 188	1 193	27,57	104,0	0,00	72,54	-	-	0,00	0,00	-	0,00
15	2 015	2 021	21,39	104,0	0,00	77,11	-	-	0,00	0,00	-	0,00
Sum	39,10											

Sum 39,10
 - Data undefined due to calculation with octave data

Project:

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Calculated:

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DECIBEL - Detailed results**Calculation: halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s****Noise sensitive area: L Noise sensitive point: German TA Lärm - User defined (13)**

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	1 393	1 398	25,77	104,0	0,00	73,91	-	-	0,00	0,00	-	0,00
2	1 071	1 077	28,72	104,0	0,00	71,64	-	-	0,00	0,00	-	0,00
3	1 423	1 429	25,52	104,0	0,00	74,10	-	-	0,00	0,00	-	0,00
4	2 327	2 336	19,60	104,0	0,00	78,37	-	-	0,00	0,00	-	0,00
5	2 781	2 792	17,33	104,0	0,00	79,92	-	-	0,00	0,00	-	0,00
6	3 402	3 413	14,71	104,0	0,00	81,66	-	-	0,00	0,00	-	0,00
7	3 556	3 567	14,14	104,0	0,00	82,05	-	-	0,00	0,00	-	0,00
8	3 759	3 773	13,42	104,0	0,00	82,53	-	-	0,00	0,00	-	0,00
9	3 890	3 903	12,98	104,0	0,00	82,83	-	-	0,00	0,00	-	0,00
10	4 596	4 612	10,79	104,0	0,00	84,28	-	-	0,00	0,00	-	0,00
11	5 004	5 021	9,68	104,0	0,00	85,02	-	-	0,00	0,00	-	0,00
12	5 074	5 093	9,49	104,0	0,00	85,14	-	-	0,00	0,00	-	0,00
13	5 172	5 193	9,24	104,0	0,00	85,31	-	-	0,00	0,00	-	0,00
14	4 881	4 901	10,00	104,0	0,00	84,81	-	-	0,00	0,00	-	0,00
15	3 867	3 884	13,04	104,0	0,00	82,78	-	-	0,00	0,00	-	0,00
Sum	32,53											

Sum 32,53
 - Data undefined due to calculation with octave data

Noise sensitive area: M Noise sensitive point: German TA Lärm - User defined (14)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	848	855	31,24	104,0	0,00	69,64	-	-	0,00	0,00	-	0,00
2	599	610	34,81	104,0	0,00	66,70	-	-	0,00	0,00	-	0,00
3	1 039	1 046	29,04	104,0	0,00	71,39	-	-	0,00	0,00	-	0,00
4	2 273	2 283	19,89	104,0	0,00	78,17	-	-	0,00	0,00	-	0,00
5	2 761	2 773	17,42	104,0	0,00	79,86	-	-	0,00	0,00	-	0,00
6	3 363	3 376	14,85	104,0	0,00	81,57	-	-	0,00	0,00	-	0,00
7	3 465	3 478	14,47	104,0	0,00	81,83	-	-	0,00	0,00	-	0,00
8	3 748	3 763	13,45	104,0	0,00	82,51	-	-	0,00	0,00	-	0,00
9	3 830	3 844	13,17	104,0	0,00	82,69	-	-	0,00	0,00	-	0,00
10	4 597	4 615	10,78	104,0	0,00	84,28	-	-	0,00	0,00	-	0,00
11	5 006	5 025	9,67	104,0	0,00	85,02	-	-	0,00	0,00	-	0,00
12	5 187	5 208	9,20	104,0	0,00	85,33	-	-	0,00	0,00	-	0,00
13	5 319	5 341	8,87	104,0	0,00	85,55	-	-	0,00	0,00	-	0,00
14	5 062	5 084	9,52	104,0	0,00	85,12	-	-	0,00	0,00	-	0,00
15	4 087	4 104	12,32	104,0	0,00	83,26	-	-	0,00	0,00	-	0,00
Sum	37,38											

Sum 37,38
 - Data undefined due to calculation with octave data

Noise sensitive area: N Noise sensitive point: German TA Lärm - User defined (15)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	848	855	31,24	104,0	0,00	69,64	-	-	0,00	0,00	-	0,00
2	599	610	34,81	104,0	0,00	66,70	-	-	0,00	0,00	-	0,00
3	1 039	1 046	29,04	104,0	0,00	71,39	-	-	0,00	0,00	-	0,00
4	2 273	2 283	19,89	104,0	0,00	78,17	-	-	0,00	0,00	-	0,00
5	2 761	2 773	17,42	104,0	0,00	79,86	-	-	0,00	0,00	-	0,00
6	3 363	3 376	14,85	104,0	0,00	81,57	-	-	0,00	0,00	-	0,00
7	3 465	3 478	14,47	104,0	0,00	81,83	-	-	0,00	0,00	-	0,00
8	3 748	3 763	13,45	104,0	0,00	82,51	-	-	0,00	0,00	-	0,00
9	3 830	3 844	13,17	104,0	0,00	82,69	-	-	0,00	0,00	-	0,00
10	4 597	4 615	10,78	104,0	0,00	84,28	-	-	0,00	0,00	-	0,00
11	5 006	5 025	9,67	104,0	0,00	85,02	-	-	0,00	0,00	-	0,00
12	5 187	5 208	9,20	104,0	0,00	85,33	-	-	0,00	0,00	-	0,00
13	5 319	5 341	8,87	104,0	0,00	85,55	-	-	0,00	0,00	-	0,00
14	5 062	5 084	9,52	104,0	0,00	85,12	-	-	0,00	0,00	-	0,00
15	4 087	4 104	12,32	104,0	0,00	83,26	-	-	0,00	0,00	-	0,00
Sum	37,38											

Sum 37,38
 - Data undefined due to calculation with octave data
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DECIBEL - Detailed results**Calculation:** halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s**Noise sensitive area: O Noise sensitive point: German TA Lärm - User defined (16)**

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	841	852	31,28	104,0	0,00	69,61	-	-	0,00	0,00	-	0,00
2	1 074	1 085	28,64	104,0	0,00	71,70	-	-	0,00	0,00	-	0,00
3	1 438	1 449	25,36	104,0	0,00	74,22	-	-	0,00	0,00	-	0,00
4	2 944	2 958	16,58	104,0	0,00	80,42	-	-	0,00	0,00	-	0,00
5	3 439	3 455	14,55	104,0	0,00	81,77	-	-	0,00	0,00	-	0,00
6	3 985	4 002	12,65	104,0	0,00	83,05	-	-	0,00	0,00	-	0,00
7	4 011	4 027	12,57	104,0	0,00	83,10	-	-	0,00	0,00	-	0,00
8	4 392	4 411	11,38	104,0	0,00	83,89	-	-	0,00	0,00	-	0,00
9	4 404	4 422	11,35	104,0	0,00	83,91	-	-	0,00	0,00	-	0,00
10	5 234	5 255	9,08	104,0	0,00	85,41	-	-	0,00	0,00	-	0,00
11	5 635	5 657	8,12	104,0	0,00	86,05	-	-	0,00	0,00	-	0,00
12	5 952	5 976	7,40	104,0	0,00	86,53	-	-	0,00	0,00	-	0,00
13	6 119	6 144	7,04	104,0	0,00	86,77	-	-	0,00	0,00	-	0,00
14	5 903	5 927	7,51	104,0	0,00	86,46	-	-	0,00	0,00	-	0,00
15	4 976	4 997	9,74	104,0	0,00	84,97	-	-	0,00	0,00	-	0,00
Sum	34,14											

Sum 34,14

- Data undefined due to calculation with octave data

Noise sensitive area: P Noise sensitive point: German TA Lärm - User defined (17)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	619	630	34,47	104,0	0,00	66,99	-	-	0,00	0,00	-	0,00
2	1 001	1 010	29,43	104,0	0,00	71,09	-	-	0,00	0,00	-	0,00
3	1 188	1 197	27,53	104,0	0,00	72,56	-	-	0,00	0,00	-	0,00
4	2 682	2 695	17,79	104,0	0,00	79,61	-	-	0,00	0,00	-	0,00
5	3 163	3 178	15,64	104,0	0,00	81,04	-	-	0,00	0,00	-	0,00
6	3 661	3 677	13,75	104,0	0,00	82,31	-	-	0,00	0,00	-	0,00
7	3 645	3 661	13,81	104,0	0,00	82,27	-	-	0,00	0,00	-	0,00
8	4 072	4 090	12,37	104,0	0,00	83,23	-	-	0,00	0,00	-	0,00
9	4 045	4 062	12,45	104,0	0,00	83,17	-	-	0,00	0,00	-	0,00
10	4 897	4 917	9,95	104,0	0,00	84,83	-	-	0,00	0,00	-	0,00
11	5 289	5 310	8,94	104,0	0,00	85,50	-	-	0,00	0,00	-	0,00
12	5 688	5 712	7,99	104,0	0,00	86,14	-	-	0,00	0,00	-	0,00
13	5 880	5 904	7,56	104,0	0,00	86,42	-	-	0,00	0,00	-	0,00
14	5 699	5 722	7,97	104,0	0,00	86,15	-	-	0,00	0,00	-	0,00
15	4 828	4 847	10,14	104,0	0,00	84,71	-	-	0,00	0,00	-	0,00
Sum	36,50											

Sum 36,50

- Data undefined due to calculation with octave data

Noise sensitive area: Q Noise sensitive point: German TA Lärm - User defined (19)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	563	573	35,46	104,0	0,00	66,16	-	-	0,00	0,00	-	0,00
2	770	778	32,24	104,0	0,00	68,82	-	-	0,00	0,00	-	0,00
3	550	561	35,66	104,0	0,00	65,98	-	-	0,00	0,00	-	0,00
4	1 871	1 881	22,27	104,0	0,00	76,49	-	-	0,00	0,00	-	0,00
5	2 334	2 345	19,55	104,0	0,00	78,40	-	-	0,00	0,00	-	0,00
6	2 804	2 817	17,21	104,0	0,00	80,00	-	-	0,00	0,00	-	0,00
7	2 777	2 790	17,34	104,0	0,00	79,91	-	-	0,00	0,00	-	0,00
8	3 215	3 230	15,43	104,0	0,00	81,18	-	-	0,00	0,00	-	0,00
9	3 178	3 191	15,58	104,0	0,00	81,08	-	-	0,00	0,00	-	0,00
10	4 033	4 050	12,49	104,0	0,00	83,15	-	-	0,00	0,00	-	0,00
11	4 422	4 441	11,29	104,0	0,00	83,95	-	-	0,00	0,00	-	0,00
12	4 850	4 870	10,08	104,0	0,00	84,75	-	-	0,00	0,00	-	0,00
13	5 055	5 075	9,54	104,0	0,00	85,11	-	-	0,00	0,00	-	0,00
14	4 896	4 916	9,96	104,0	0,00	84,83	-	-	0,00	0,00	-	0,00
15	4 073	4 089	12,37	104,0	0,00	83,23	-	-	0,00	0,00	-	0,00
Sum	39,73											

Sum 39,73

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DECIBEL - Detailed results**Calculation:** halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s**Noise sensitive area: R Noise sensitive point: German TA Lärm - User defined (21)**

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	5 461	5 481	8,53	104,0	0,00	85,78	-	-	0,00	0,00	-	0,00
2	5 237	5 257	9,08	104,0	0,00	85,41	-	-	0,00	0,00	-	0,00
3	4 853	4 872	10,07	104,0	0,00	84,75	-	-	0,00	0,00	-	0,00
4	3 348	3 362	14,90	104,0	0,00	81,53	-	-	0,00	0,00	-	0,00
5	2 851	2 863	17,00	104,0	0,00	80,14	-	-	0,00	0,00	-	0,00
6	2 324	2 335	19,61	104,0	0,00	78,36	-	-	0,00	0,00	-	0,00
7	2 392	2 403	19,24	104,0	0,00	78,62	-	-	0,00	0,00	-	0,00
8	1 913	1 923	22,00	104,0	0,00	76,68	-	-	0,00	0,00	-	0,00
9	1 998	2 008	21,48	104,0	0,00	77,05	-	-	0,00	0,00	-	0,00
10	1 135	1 143	28,06	104,0	0,00	72,16	-	-	0,00	0,00	-	0,00
11	839	847	31,34	104,0	0,00	69,56	-	-	0,00	0,00	-	0,00
12	570	579	35,35	104,0	0,00	66,25	-	-	0,00	0,00	-	0,00
13	775	782	32,20	104,0	0,00	68,86	-	-	0,00	0,00	-	0,00
14	1 181	1 186	27,64	104,0	0,00	72,48	-	-	0,00	0,00	-	0,00
15	2 008	2 014	21,44	104,0	0,00	77,08	-	-	0,00	0,00	-	0,00

Sum 39,24

Data undefined due to calculation with octave data

Noise sensitive area: S Noise sensitive point: German TA Lärm - User defined (22)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	5 762	5 785	7,83	104,0	0,00	86,25	-	-	0,00	0,00	-	0,00
2	5 461	5 483	8,53	104,0	0,00	85,78	-	-	0,00	0,00	-	0,00
3	5 163	5 184	9,26	104,0	0,00	85,29	-	-	0,00	0,00	-	0,00
4	3 686	3 702	13,66	104,0	0,00	82,37	-	-	0,00	0,00	-	0,00
5	3 243	3 256	15,32	104,0	0,00	81,25	-	-	0,00	0,00	-	0,00
6	2 933	2 944	16,64	104,0	0,00	80,38	-	-	0,00	0,00	-	0,00
7	3 147	3 158	15,72	104,0	0,00	80,99	-	-	0,00	0,00	-	0,00
8	2 587	2 597	18,26	104,0	0,00	79,29	-	-	0,00	0,00	-	0,00
9	2 832	2 842	17,10	104,0	0,00	80,07	-	-	0,00	0,00	-	0,00
10	2 162	2 169	20,52	104,0	0,00	77,73	-	-	0,00	0,00	-	0,00
11	2 088	2 094	20,96	104,0	0,00	77,42	-	-	0,00	0,00	-	0,00
12	1 093	1 099	28,49	104,0	0,00	71,82	-	-	0,00	0,00	-	0,00
13	765	772	32,34	104,0	0,00	68,75	-	-	0,00	0,00	-	0,00
14	679	688	33,55	104,0	0,00	67,76	-	-	0,00	0,00	-	0,00
15	1 582	1 591	24,26	104,0	0,00	75,04	-	-	0,00	0,00	-	0,00

Sum 37,38

Data undefined due to calculation with octave data

Noise sensitive area: T Noise sensitive point: German TA Lärm - User defined (23)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	4 835	4 855	10,12	104,0	0,00	84,72	-	-	0,00	0,00	-	0,00
2	4 519	4 538	11,01	104,0	0,00	84,14	-	-	0,00	0,00	-	0,00
3	4 246	4 264	11,82	104,0	0,00	83,60	-	-	0,00	0,00	-	0,00
4	2 813	2 825	17,18	104,0	0,00	80,02	-	-	0,00	0,00	-	0,00
5	2 413	2 423	19,14	104,0	0,00	78,69	-	-	0,00	0,00	-	0,00
6	2 235	2 243	20,11	104,0	0,00	78,01	-	-	0,00	0,00	-	0,00
7	2 511	2 519	18,65	104,0	0,00	79,02	-	-	0,00	0,00	-	0,00
8	1 972	1 978	21,65	104,0	0,00	76,93	-	-	0,00	0,00	-	0,00
9	2 283	2 289	19,86	104,0	0,00	78,19	-	-	0,00	0,00	-	0,00
10	1 879	1 883	22,25	104,0	0,00	76,50	-	-	0,00	0,00	-	0,00
11	1 999	2 003	21,50	104,0	0,00	77,04	-	-	0,00	0,00	-	0,00
12	1 179	1 183	27,66	104,0	0,00	72,46	-	-	0,00	0,00	-	0,00
13	1 014	1 020	29,32	104,0	0,00	71,17	-	-	0,00	0,00	-	0,00
14	588	597	35,03	104,0	0,00	66,51	-	-	0,00	0,00	-	0,00
15	612	622	34,60	104,0	0,00	66,88	-	-	0,00	0,00	-	0,00

Sum 39,25

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DECIBEL - Detailed results

Calculation: halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s

Noise sensitive area: U Noise sensitive point: German TA Lärm - User defined (24)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	5 448	5 469	8,56	104,0	0,00	85,76	-	-	0,00	0,00	-	0,00
2	5 139	5 159	9,32	104,0	0,00	85,25	-	-	0,00	0,00	-	0,00
3	4 854	4 873	10,07	104,0	0,00	84,76	-	-	0,00	0,00	-	0,00
4	3 396	3 410	14,72	104,0	0,00	81,65	-	-	0,00	0,00	-	0,00
5	2 969	2 981	16,48	104,0	0,00	80,49	-	-	0,00	0,00	-	0,00
6	2 709	2 719	17,67	104,0	0,00	79,69	-	-	0,00	0,00	-	0,00
7	2 949	2 959	16,57	104,0	0,00	80,42	-	-	0,00	0,00	-	0,00
8	2 391	2 399	19,26	104,0	0,00	78,60	-	-	0,00	0,00	-	0,00
9	2 663	2 672	17,89	104,0	0,00	79,54	-	-	0,00	0,00	-	0,00
10	2 079	2 085	21,01	104,0	0,00	77,38	-	-	0,00	0,00	-	0,00
11	2 076	2 081	21,04	104,0	0,00	77,37	-	-	0,00	0,00	-	0,00
12	1 096	1 101	28,47	104,0	0,00	71,84	-	-	0,00	0,00	-	0,00
13	797	803	31,91	104,0	0,00	69,10	-	-	0,00	0,00	-	0,00
14	509	520	36,44	104,0	0,00	65,32	-	-	0,00	0,00	-	0,00
15	1 239	1 248	27,06	104,0	0,00	72,92	-	-	0,00	0,00	-	0,00
Sum	38,91											

- Data undefined due to calculation with octave data

Noise sensitive area: V Noise sensitive point: German TA Lärm - User defined (25)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	5 415	5 437	8,64	104,0	0,00	85,71	-	-	0,00	0,00	-	0,00
2	5 071	5 091	9,50	104,0	0,00	85,14	-	-	0,00	0,00	-	0,00
3	4 852	4 871	10,08	104,0	0,00	84,75	-	-	0,00	0,00	-	0,00
4	3 510	3 523	14,30	104,0	0,00	81,94	-	-	0,00	0,00	-	0,00
5	3 163	3 174	15,65	104,0	0,00	81,03	-	-	0,00	0,00	-	0,00
6	3 064	3 073	16,08	104,0	0,00	80,75	-	-	0,00	0,00	-	0,00
7	3 356	3 365	14,89	104,0	0,00	81,54	-	-	0,00	0,00	-	0,00
8	2 829	2 836	17,13	104,0	0,00	80,05	-	-	0,00	0,00	-	0,00
9	3 146	3 153	15,74	104,0	0,00	80,98	-	-	0,00	0,00	-	0,00
10	2 732	2 737	17,59	104,0	0,00	79,74	-	-	0,00	0,00	-	0,00
11	2 811	2 816	17,22	104,0	0,00	79,99	-	-	0,00	0,00	-	0,00
12	1 887	1 891	22,21	104,0	0,00	76,53	-	-	0,00	0,00	-	0,00
13	1 622	1 626	24,01	104,0	0,00	75,22	-	-	0,00	0,00	-	0,00
14	1 245	1 250	27,05	104,0	0,00	72,94	-	-	0,00	0,00	-	0,00
15	1 307	1 314	26,48	104,0	0,00	73,37	-	-	0,00	0,00	-	0,00
Sum	32,38											

- Data undefined due to calculation with octave data

Noise sensitive area: W Noise sensitive point: German TA Lärm - User defined (26)

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	4 518	4 536	11,01	104,0	0,00	84,13	-	-	0,00	0,00	-	0,00
2	4 166	4 182	12,07	104,0	0,00	83,43	-	-	0,00	0,00	-	0,00
3	3 967	3 982	12,71	104,0	0,00	83,00	-	-	0,00	0,00	-	0,00
4	2 696	2 706	17,73	104,0	0,00	79,65	-	-	0,00	0,00	-	0,00
5	2 413	2 421	19,15	104,0	0,00	78,68	-	-	0,00	0,00	-	0,00
6	2 453	2 459	18,95	104,0	0,00	78,82	-	-	0,00	0,00	-	0,00
7	2 777	2 783	17,37	104,0	0,00	79,89	-	-	0,00	0,00	-	0,00
8	2 318	2 323	19,67	104,0	0,00	78,32	-	-	0,00	0,00	-	0,00
9	2 660	2 665	17,93	104,0	0,00	79,51	-	-	0,00	0,00	-	0,00
10	2 497	2 501	18,74	104,0	0,00	78,96	-	-	0,00	0,00	-	0,00
11	2 705	2 709	17,72	104,0	0,00	79,66	-	-	0,00	0,00	-	0,00
12	2 000	2 005	21,49	104,0	0,00	77,04	-	-	0,00	0,00	-	0,00
13	1 860	1 865	22,37	104,0	0,00	76,42	-	-	0,00	0,00	-	0,00
14	1 434	1 441	25,42	104,0	0,00	74,17	-	-	0,00	0,00	-	0,00
15	736	744	32,73	104,0	0,00	68,43	-	-	0,00	0,00	-	0,00
Sum	34,96											

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WindPRO is developed by EMD International A/S, Niels Jernesvej 10, DK-9220 Aalborg O, Tlf. +45 96 35 44 44, Fax +45 96 35 44 46, e-mail: windpro@emd.dk

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DECIBEL - Detailed results**Calculation:** halas 15TWNNoise calculation model: ISO 9613-2 General 8,0 m/s**Noise sensitive area: X Noise sensitive point: German TA Lärm - User defined (27)**

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	3 811	3 827	13,23	104,0	0,00	82,66	-	-	0,00	0,00	-	0,00
2	3 490	3 505	14,37	104,0	0,00	81,89	-	-	0,00	0,00	-	0,00
3	3 228	3 241	15,38	104,0	0,00	81,21	-	-	0,00	0,00	-	0,00
4	1 842	1 851	22,46	104,0	0,00	76,35	-	-	0,00	0,00	-	0,00
5	1 510	1 517	24,82	104,0	0,00	74,62	-	-	0,00	0,00	-	0,00
6	1 541	1 546	24,60	104,0	0,00	74,79	-	-	0,00	0,00	-	0,00
7	1 871	1 875	22,30	104,0	0,00	76,46	-	-	0,00	0,00	-	0,00
8	1 451	1 456	25,30	104,0	0,00	74,26	-	-	0,00	0,00	-	0,00
9	1 794	1 798	22,81	104,0	0,00	76,10	-	-	0,00	0,00	-	0,00
10	1 824	1 828	22,61	104,0	0,00	76,24	-	-	0,00	0,00	-	0,00
11	2 126	2 132	20,74	104,0	0,00	77,58	-	-	0,00	0,00	-	0,00
12	1 740	1 748	23,15	104,0	0,00	75,85	-	-	0,00	0,00	-	0,00
13	1 759	1 767	23,02	104,0	0,00	75,94	-	-	0,00	0,00	-	0,00
14	1 427	1 436	25,46	104,0	0,00	74,14	-	-	0,00	0,00	-	0,00
15	418	433	38,29	104,0	0,00	63,73	-	-	0,00	0,00	-	0,00

Sum 39,71

- Data undefined due to calculation with octave data

Noise sensitive area: Y Noise sensitive point: German TA Lärm - User defined (28)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	4 407	4 425	11,34	104,0	0,00	83,92	-	-	0,00	0,00	-	0,00
2	4 126	4 143	12,20	104,0	0,00	83,35	-	-	0,00	0,00	-	0,00
3	3 803	3 819	13,26	104,0	0,00	82,64	-	-	0,00	0,00	-	0,00
4	2 307	2 318	19,70	104,0	0,00	78,30	-	-	0,00	0,00	-	0,00
5	1 854	1 864	22,38	104,0	0,00	76,41	-	-	0,00	0,00	-	0,00
6	1 569	1 576	24,37	104,0	0,00	74,95	-	-	0,00	0,00	-	0,00
7	1 820	1 827	22,62	104,0	0,00	76,23	-	-	0,00	0,00	-	0,00
8	1 269	1 275	26,82	104,0	0,00	73,11	-	-	0,00	0,00	-	0,00
9	1 568	1 573	24,39	104,0	0,00	74,94	-	-	0,00	0,00	-	0,00
10	1 199	1 204	27,47	104,0	0,00	72,61	-	-	0,00	0,00	-	0,00
11	1 395	1 400	25,75	104,0	0,00	73,92	-	-	0,00	0,00	-	0,00
12	880	888	30,83	104,0	0,00	69,97	-	-	0,00	0,00	-	0,00
13	941	950	30,10	104,0	0,00	70,55	-	-	0,00	0,00	-	0,00
14	719	729	32,94	104,0	0,00	68,25	-	-	0,00	0,00	-	0,00
15	627	636	34,37	104,0	0,00	67,07	-	-	0,00	0,00	-	0,00

Sum 39,73

- Data undefined due to calculation with octave data

Noise sensitive area: Z Noise sensitive point: German TA Lärm - User defined (29)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	5 031	5 051	9,60	104,0	0,00	85,07	-	-	0,00	0,00	-	0,00
2	4 711	4 731	10,46	104,0	0,00	84,50	-	-	0,00	0,00	-	0,00
3	4 444	4 462	11,23	104,0	0,00	83,99	-	-	0,00	0,00	-	0,00
4	3 017	3 029	16,27	104,0	0,00	80,63	-	-	0,00	0,00	-	0,00
5	2 618	2 629	18,10	104,0	0,00	79,39	-	-	0,00	0,00	-	0,00
6	2 435	2 444	19,03	104,0	0,00	78,76	-	-	0,00	0,00	-	0,00
7	2 708	2 716	17,69	104,0	0,00	79,68	-	-	0,00	0,00	-	0,00
8	2 164	2 171	20,51	104,0	0,00	77,73	-	-	0,00	0,00	-	0,00
9	2 469	2 476	18,87	104,0	0,00	78,88	-	-	0,00	0,00	-	0,00
10	2 024	2 029	21,35	104,0	0,00	77,15	-	-	0,00	0,00	-	0,00
11	2 113	2 118	20,82	104,0	0,00	77,52	-	-	0,00	0,00	-	0,00
12	1 231	1 236	27,17	104,0	0,00	72,84	-	-	0,00	0,00	-	0,00
13	1 017	1 023	29,29	104,0	0,00	71,19	-	-	0,00	0,00	-	0,00
14	597	605	34,88	104,0	0,00	66,64	-	-	0,00	0,00	-	0,00
15	805	814	31,77	104,0	0,00	69,21	-	-	0,00	0,00	-	0,00

Sum 36,25

WindPRO is developed by EMD International A/S, Niels Jernesvej 10, DK-9220 Aalborg O, Tlf. +45 96 35 44 44, Fax +45 96 35 44 46, e-mail: windpro@emd.dk

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2012-06-01 15:07/2.7.490**DECIBEL - Detailed results**

Calculation: halas 15TWNNoise calculation model: ISO 9613-2 General 8,0 m/s

Noise sensitive area: AA Noise sensitive point: German TA Lärm - User defined (30)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	1 431	1 439	25,44	104,0	0,00	74,16	-	-	0,00	0,00	-	0,00
2	1 827	1 835	22,56	104,0	0,00	76,27	-	-	0,00	0,00	-	0,00
3	1 911	1 920	22,02	104,0	0,00	76,67	-	-	0,00	0,00	-	0,00
4	3 299	3 313	15,09	104,0	0,00	81,41	-	-	0,00	0,00	-	0,00
5	3 748	3 764	13,45	104,0	0,00	82,51	-	-	0,00	0,00	-	0,00
6	4 172	4 190	12,05	104,0	0,00	83,44	-	-	0,00	0,00	-	0,00
7	4 096	4 113	12,29	104,0	0,00	83,28	-	-	0,00	0,00	-	0,00
8	4 579	4 598	10,83	104,0	0,00	84,25	-	-	0,00	0,00	-	0,00
9	4 496	4 515	11,07	104,0	0,00	84,09	-	-	0,00	0,00	-	0,00
10	5 364	5 386	8,76	104,0	0,00	85,63	-	-	0,00	0,00	-	0,00
11	5 736	5 759	7,88	104,0	0,00	86,21	-	-	0,00	0,00	-	0,00
12	6 242	6 267	6,78	104,0	0,00	86,94	-	-	0,00	0,00	-	0,00
13	6 461	6 486	6,33	104,0	0,00	87,24	-	-	0,00	0,00	-	0,00
14	6 319	6 344	6,62	104,0	0,00	87,05	-	-	0,00	0,00	-	0,00
15	5 509	5 530	8,41	104,0	0,00	85,85	-	-	0,00	0,00	-	0,00

Sum 29,22

- Data undefined due to calculation with octave data

Noise sensitive area: AB Noise sensitive point: German TA Lärm - User defined (31)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	945	952	30,07	104,0	0,00	70,58	-	-	0,00	0,00	-	0,00
2	1 298	1 304	26,57	104,0	0,00	73,31	-	-	0,00	0,00	-	0,00
3	1 192	1 199	27,51	104,0	0,00	72,58	-	-	0,00	0,00	-	0,00
4	2 445	2 456	18,97	104,0	0,00	78,80	-	-	0,00	0,00	-	0,00
5	2 878	2 891	16,88	104,0	0,00	80,22	-	-	0,00	0,00	-	0,00
6	3 287	3 302	15,14	104,0	0,00	81,38	-	-	0,00	0,00	-	0,00
7	3 210	3 224	15,45	104,0	0,00	81,17	-	-	0,00	0,00	-	0,00
8	3 693	3 709	13,64	104,0	0,00	82,39	-	-	0,00	0,00	-	0,00
9	3 610	3 626	13,93	104,0	0,00	82,19	-	-	0,00	0,00	-	0,00
10	4 478	4 496	11,13	104,0	0,00	84,06	-	-	0,00	0,00	-	0,00
11	4 851	4 871	10,08	104,0	0,00	84,75	-	-	0,00	0,00	-	0,00
12	5 360	5 381	8,77	104,0	0,00	85,62	-	-	0,00	0,00	-	0,00
13	5 583	5 605	8,24	104,0	0,00	85,97	-	-	0,00	0,00	-	0,00
14	5 451	5 472	8,55	104,0	0,00	85,76	-	-	0,00	0,00	-	0,00
15	4 670	4 687	10,58	104,0	0,00	84,42	-	-	0,00	0,00	-	0,00

Sum 33,68

- Data undefined due to calculation with octave data

Noise sensitive area: AC Noise sensitive point: German TA Lärm - User defined (32)

WTG		Wind speed: 8,0 m/s										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	1 323	1 329	26,35	104,0	0,00	73,47	-	-	0,00	0,00	-	0,00
2	1 709	1 715	23,38	104,0	0,00	75,69	-	-	0,00	0,00	-	0,00
3	1 673	1 681	23,62	104,0	0,00	75,51	-	-	0,00	0,00	-	0,00
4	2 943	2 956	16,59	104,0	0,00	80,41	-	-	0,00	0,00	-	0,00
5	3 369	3 383	14,83	104,0	0,00	81,59	-	-	0,00	0,00	-	0,00
6	3 757	3 773	13,42	104,0	0,00	82,53	-	-	0,00	0,00	-	0,00
7	3 660	3 676	13,75	104,0	0,00	82,31	-	-	0,00	0,00	-	0,00
8	4 159	4 176	12,09	104,0	0,00	83,42	-	-	0,00	0,00	-	0,00
9	4 058	4 075	12,41	104,0	0,00	83,20	-	-	0,00	0,00	-	0,00
10	4 926	4 947	9,87	104,0	0,00	84,89	-	-	0,00	0,00	-	0,00
11	5 291	5 313	8,94	104,0	0,00	85,51	-	-	0,00	0,00	-	0,00
12	5 833	5 856	7,66	104,0	0,00	86,35	-	-	0,00	0,00	-	0,00
13	6 063	6 086	7,16	104,0	0,00	86,69	-	-	0,00	0,00	-	0,00
14	5 941	5 963	7,43	104,0	0,00	86,51	-	-	0,00	0,00	-	0,00
15	5 170	5 189	9,25	104,0	0,00	85,30	-	-	0,00	0,00	-	0,00

Sum 30,32

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DECIBEL - Detailed results

Calculation: halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s

Noise sensitive area: AD Noise sensitive point: German TA Lärm - User defined (33)

WTG **Wind speed: 8,0 m/s**

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
1	5 630	5 652	8,13	104,0	0,00	86,04	-	-	0,00	0,00	-	0,00
2	5 276	5 297	8,98	104,0	0,00	85,48	-	-	0,00	0,00	-	0,00
3	5 078	5 098	9,48	104,0	0,00	85,15	-	-	0,00	0,00	-	0,00
4	3 774	3 787	13,37	104,0	0,00	82,57	-	-	0,00	0,00	-	0,00
5	3 446	3 458	14,54	104,0	0,00	81,78	-	-	0,00	0,00	-	0,00
6	3 375	3 384	14,82	104,0	0,00	81,59	-	-	0,00	0,00	-	0,00
7	3 671	3 680	13,74	104,0	0,00	82,32	-	-	0,00	0,00	-	0,00
8	3 149	3 157	15,73	104,0	0,00	80,99	-	-	0,00	0,00	-	0,00
9	3 469	3 477	14,47	104,0	0,00	81,82	-	-	0,00	0,00	-	0,00
10	3 061	3 066	16,11	104,0	0,00	80,73	-	-	0,00	0,00	-	0,00
11	3 135	3 140	15,80	104,0	0,00	80,94	-	-	0,00	0,00	-	0,00
12	2 198	2 202	20,34	104,0	0,00	77,86	-	-	0,00	0,00	-	0,00
13	1 921	1 925	21,99	104,0	0,00	76,69	-	-	0,00	0,00	-	0,00
14	1 561	1 565	24,45	104,0	0,00	74,89	-	-	0,00	0,00	-	0,00
15	1 603	1 610	24,13	104,0	0,00	75,13	-	-	0,00	0,00	-	0,00

Sum 30,31

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DECIBEL - Assumptions for noise calculation

Calculation: halas 15TW**Noise calculation model:** ISO 9613-2 General 8,0 m/s

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 1,0

Meteorological coefficient, C0:

0,0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure and Impulse tone penalty are added to WTG source noise

Height above ground level, when no value in NSA object:

4,0 m Don't allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0,0 dB(A)

Octave data required

Air absorption

63	125	250	500	1 000	2 000	4 000	8 000
[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]
0,1	0,4	1,0	1,9	3,7	9,7	32,8	117,0

WTG: VESTAS V90 2000 90.0 !O!

Noise: Level 0 - calculated - Mode 0 - 07-2009

Source Source/Date Creator Edited
 Manufacturer 2009-07-09 EMD 2009-10-20 11:48
 Noise based on document no. 0004-6207 V01 2009-07-09.

Please contact Vestas on information on the latest noise data. Accuracy = +/- 2 dB(A)

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data							
					63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
From Windcat	105,0	8,0	104,0	No	Generic data 85,6	92,6	96,0	98,6	98,4	95,5	90,7	81,2

NSA: Noise sensitive point: German TA Lärm - User defined (2)-A

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (3)-B

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (4)-C

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (5)-D

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

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PROKON Energiesysteme GmbH
Kirchhoffstraße 3
DE-25524 Itzehoe
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Calculated:
2012-06-01 15:07/2.7.490

DECIBEL - Assumptions for noise calculation

Calculation: halas 15TW **Noise calculation model:** ISO 9613-2 General 8,0 m/s

NSA: Noise sensitive point: German TA Lärm - User defined (6)-E

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (7)-F

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (8)-G

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (9)-H

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (10)-I

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (11)-J

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (12)-K

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (13)-L

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

NSA: Noise sensitive point: German TA Lärm - User defined (14)-M

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 45,0 dB(A)

Distance demand: 0,0 m

Project:

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Calculated:

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DECIBEL - Assumptions for noise calculation**Calculation:** halas 15TW **Noise calculation model:** ISO 9613-2 General 8,0 m/s**NSA:** Noise sensitive point: German TA Lärm - User defined (15)-N**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (16)-O**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (17)-P**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (19)-Q**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (21)-R**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (22)-S**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (23)-T**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (24)-U**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (25)-V**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m

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DECIBEL - Assumptions for noise calculation**Calculation:** halas 15TW **Noise calculation model:** ISO 9613-2 General 8,0 m/s**NSA:** Noise sensitive point: German TA Lärm - User defined (26)-W**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (27)-X**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (28)-Y**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (29)-Z**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (30)-AA**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (31)-AB**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (32)-AC**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** Noise sensitive point: German TA Lärm - User defined (33)-AD**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m

Project:
czernice

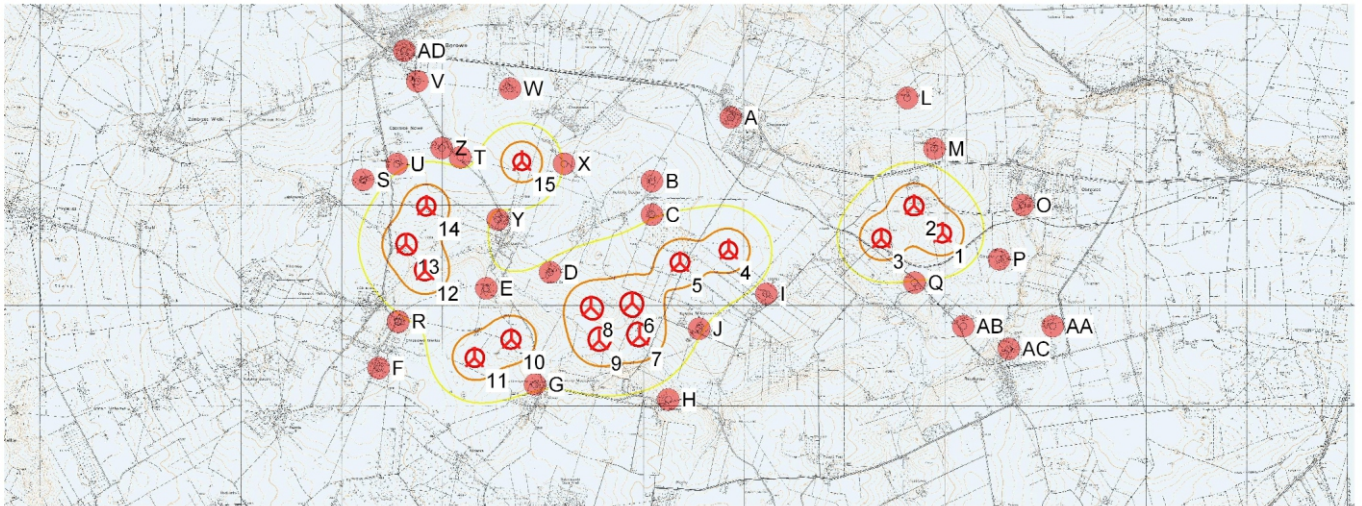
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DECIBEL - Map 8,0 m/s

Calculation: halas 15TWNoise calculation model: ISO 9613-2 General 8,0 m/s



Map: czernice_codigk_topo , Print scale 1:75 000, Map center Geo WGS 84 East: 20°45,6218' North: 53°00,7378'
Noise calculation model: ISO 9613-2 General. Wind speed: 8,0 m/s

- New WTG
 - Noise sensitive area
 - 40,0 dB(A)
 - 45,0 dB(A)
 - 50,0 dB(A)
 - 55,0 dB(A)
- Height above sea level from active line object