

Project:

Analiza akustyczna

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2014-05-14 23:07 / 1

Licensed user:

ENVO

ul.Sikorskiego 25/20

PL-62 030 Lubon

0048 662 643 300

Envio1 / envio-i.nowicki@wp.pl

Calculated:

2014-05-14 23:06/2.9.207

**DECIBEL - Main Result****Calculation:** Analiza akustyczna wariant proponowany**Noise calculation model:**

ISO 9613-2 General

**Wind speed:**

6,0 m/s

**Ground attenuation:**

General, Ground factor: 0,0

**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 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)



New WTG

Noise sensitive area

**WTGs**

Polish GK 2000/15-24 (3 deg)-ETRS89 Zone: 6				WTG type		Noise data												
East	North	Z	Row	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Creator	Name	Wind speed	Status	LwA,ref	Pure tones			
			data/Description															
			[m]															
1	6 548 832	5 788 163	102,1 EW1	No	ENERCON	E-40/5.40-500	500	40,3	80,0	USER	10m/s	Man. guaranteed	all Hub heights	12/98	6,0	From slope	97,0	0 dB g
g) Data calculated from data for other wind speed (uncertain)																		

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**DECIBEL - Detailed results****Calculation:** Analiza akustyczna wariant proponowany **Noise calculation model:** ISO 9613-2 General 6,0 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 RN1****WTG****Wind speed: 6,0 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	550	555	<b>32,33</b>	97,0	0,00	65,88	-	-	0,00	0,00	-	0,00

Sum 32,33

- Data undefined due to calculation with octave data

**Noise sensitive area: B RN2****WTG****Wind speed: 6,0 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	556	560	<b>32,22</b>	97,0	0,00	65,97	-	-	0,00	0,00	-	0,00

Sum 32,22

- Data undefined due to calculation with octave data

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**DECIBEL - Assumptions for noise calculation****Calculation:** Analiza akustyczna wariant proponowany **Noise calculation model:** ISO 9613-2 General 6,0 m/s**Noise calculation model:**

ISO 9613-2 General

**Wind speed:**

6,0 m/s

**Ground attenuation:**

General, Ground factor: 0,0

**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 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:** ENERCON E-40/5.40 500 40.3 !O!**Noise:** 10m/s Man. guaranteed all Hub heights 12/98

Source Source/Date Creator Edited

Manufacturer 1998-12-01 USER 2003-08-13 16:41

Refers to measuring report KÖTTER 23554-2.002 from 03.03.1998

For older turbines, there may be a tonality due to a different generator type. If in doubt, please ask Enercon.

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 slope	80,0	6,0	97,0	No	Generic data	78,6	85,6	89,0	91,6	91,4	88,5	83,7	74,2

**NSA:** RN1-A**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:****NSA:** RN2-B**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:**