



SIEMENS Gamesa

BLADE INSPECTION REPORT



OSNE LE VAL

TTR Energy

2021





SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV01

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 19/05/2021



GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV01
FL:	WF-FR-052-2059-Y1-A-003
CLIENT:	TTR Energy
WO N°	501967607
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV01
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	678000
LINE HOURS OK	7576
WTG HOURS OK	7470

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	18/05/2021
END DATE	18/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520430
BLADE WEIGHT (kg)	15520/15520
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

BLADE B

BLADE N°	LG1903520432
BLADE WEIGHT (kg)	15476/15540
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

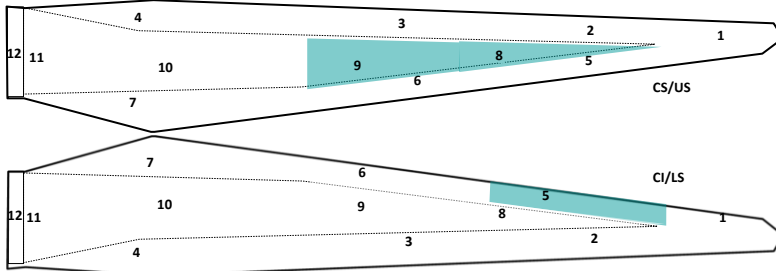
BLADE C

BLADE N°	LG1903520431
BLADE WEIGHT (kg)	15416/15516
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION

BLADE A

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	9	US	43000	200	400	500	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	8	US	50000	500	400	400	DIRTINESS	CLEAN	WEAR & TEAR
03	4.11	9	US	41000	500	150	150	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
04	4.08	5	LS	55000	700	300	150	DIRTINESS	CLEAN	WEAR & TEAR

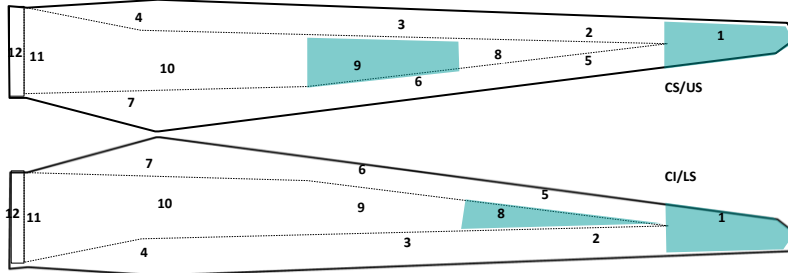


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	62500	100	50	60	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	8	LS	47000	400	350	50	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	9	US	30000	350	400	500	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	9	US	37000	200	100	600	DIRTINESS	CLEAN	WEAR & TEAR
05	4.08	1	US	62000	200	50	50	DIRTINESS	CLEAN	WEAR & TEAR

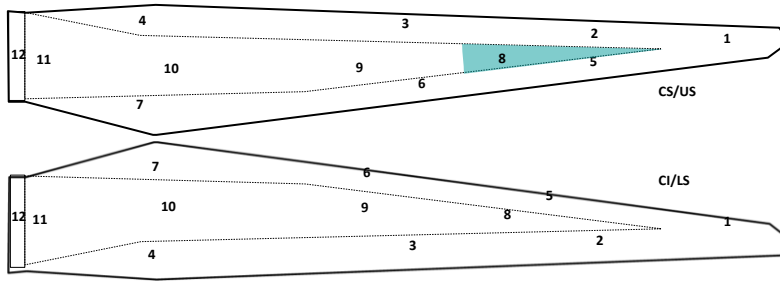


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

DAMAGE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE	
	Nº	CODE	ZONE	SHELL	ROOT	LE				LENGTH
01	4.08	8	US	40000	300	400	500	DIRTINESS	CLEAN	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	9	US	43000	200	400	500	DIRTINESS	CLEAN	WEAR & TEAR



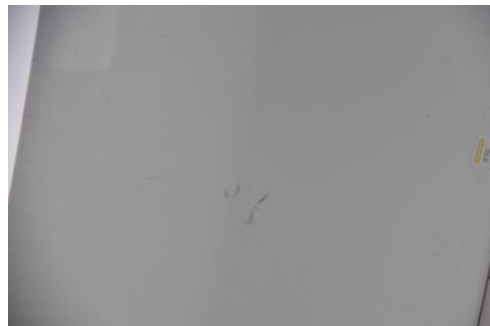
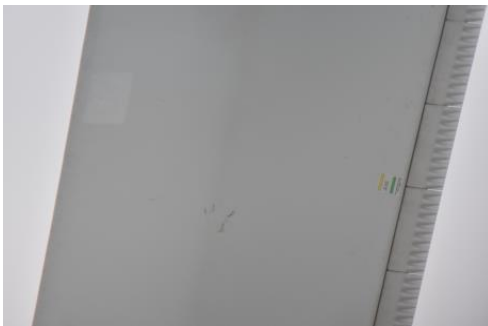
REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	8	US	50000	500	400	400	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	9	US	41000	500	150	150	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

3. PHOTOS OF DAMAGES
BLADE A

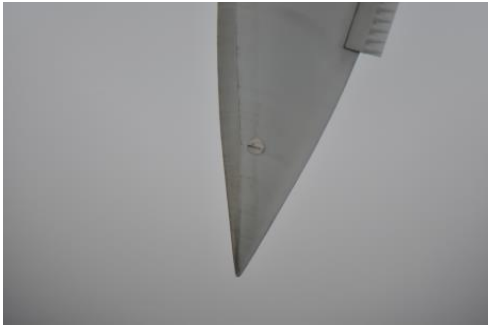
DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	5	LS	55000	700	300	150	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

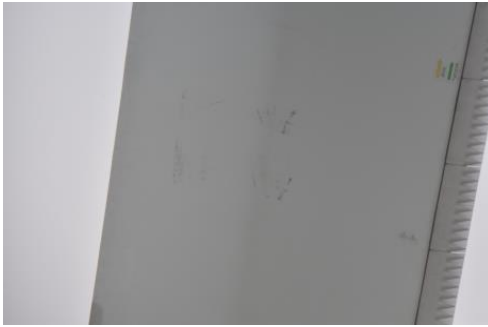
BLADE B

Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	62500	100	50	60	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	8	LS	47000	400	350	50	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	9	US	30000	350	400	500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	9	US	37000	200	100	600	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
05	4.08	1	US	62000	200	50	50	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	8	US	40000	300	400	500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV02

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 19/05/2021

GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV02
FL:	WF-FR-052-2059-Y1-A-002
CLIENT:	TTR Energy
WO N°	501967606
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV02
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	4903000
LINE HOURS OK	7388
WTG HOURS OK	7296

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	19/05/2021
END DATE	19/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520433
BLADE WEIGHT (kg)	15642
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE B

BLADE N°	LG1903520428
BLADE WEIGHT (kg)	15534
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE C

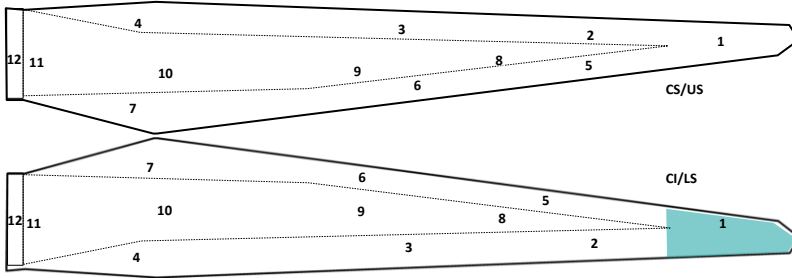
BLADE N°	LG19035204434
BLADE WEIGHT (kg)	15444/15508
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION

BLADE A

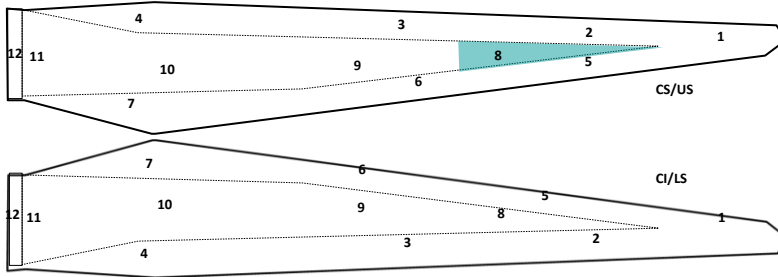
DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	58000	300	100	1000	DIRTINESS	CLEAN	WEAR & TEAR



- ZONES**
- 1 TIP
 - 2 TIP LEADING EDGE
 - 3 MEDIUM LEADING EDGE
 - 4 ROOT LEADING EDGE
 - 5 TIP TRAILING EDGE
 - 6 MEDIUM TRAILING EDGE
 - 7 ROOT TRAILING EDGE
 - 8 SPAR AREA TIP
 - 9 SPAR AREA MEDIUM
 - 10 SPAR AREA ROOT
 - 11 ROOT
 - 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	8	US	50000	200	500	1000	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	8	US	49000	300	100	500	DIRTINESS	CLEAN	WEAR & TEAR

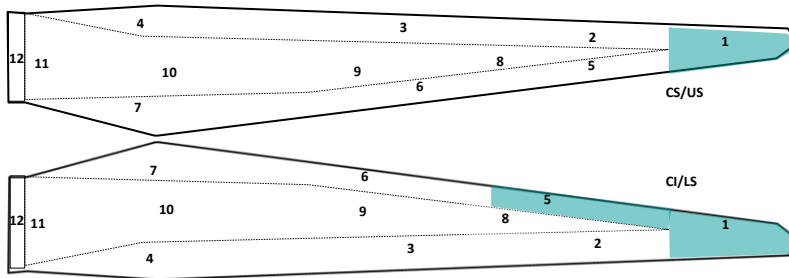


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	59000	200	1000	300	DIRTINESS	CLEAN	WEAR & TEAR
02	4.11	1	LS	59000	1000	1000	150	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
03	4.11	5	LS	50000	1300	400	150	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
04	4.08	1	LS	62500	200	10	150	DIRTINESS	CLEAN	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	58000	300	100	1000	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	8	US	50000	200	500	1000	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	8	US	49000	300	100	500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	59000	200	1000	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.11	1	LS	59000	1000	1000	150	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

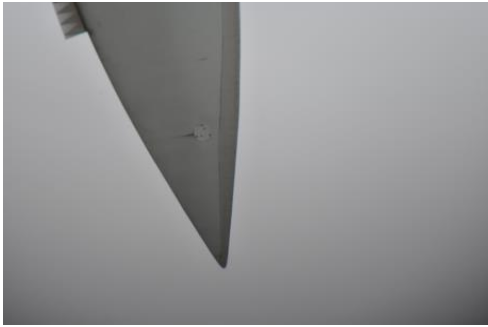
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		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	5	LS	50000	1300	400	150	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	1	LS	62500	200	10	150	DIRTINESS	CLEAN	WEAR & TEAR



REMARK



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RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV03

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 20/05/2021

GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV03
FL:	WF-FR-052-2059-Y1-A-001
CLIENT:	TTR Energy
WO N°	501967605
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV03
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	5999000
LINE HOURS OK	7456
WTG HOURS OK	7238

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	20/05/2021
END DATE	20/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520424
BLADE WEIGHT (kg)	15368/15368
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE B

BLADE N°	LG1903520420
BLADE WEIGHT (kg)	15436
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE C

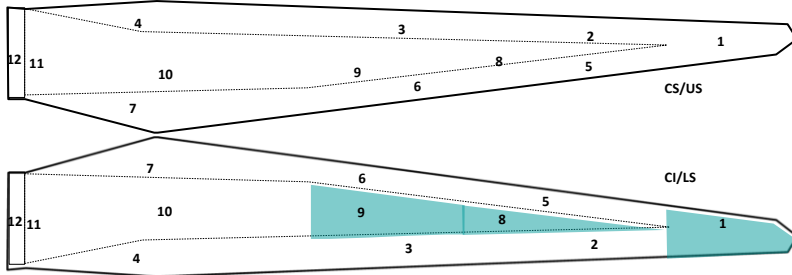
BLADE N°	LG1903520426
BLADE WEIGHT (kg)	15418/20426
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION

BLADE A

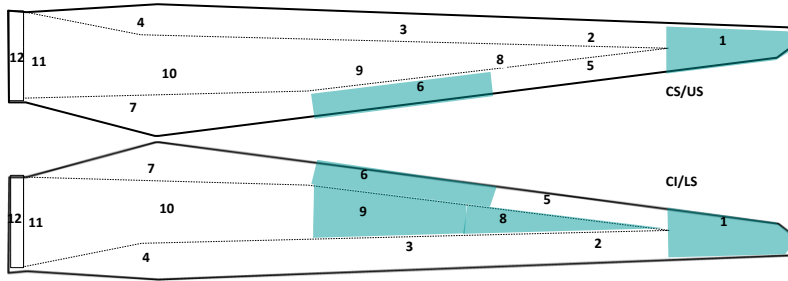
Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	61500	300	700	250	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	8	LS	55000	300	300	300	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	9	LS	42000	1000	800	800	DIRTINESS	CLEAN	WEAR & TEAR



- ZONES**
- 1 TIP
 - 2 TIP LEADING EDGE
 - 3 MEDIUM LEADING EDGE
 - 4 ROOT LEADING EDGE
 - 5 TIP TRAILING EDGE
 - 6 MEDIUM TRAILING EDGE
 - 7 ROOT TRAILING EDGE
 - 8 SPAR AREA TIP
 - 9 SPAR AREA MEDIUM
 - 10 SPAR AREA ROOT
 - 11 ROOT
 - 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	60000	200	100	50	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	8	LS	55000	500	20	20	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	9	LS	47000	300	500	500	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	6	LS	40000	1000	1000	200	DIRTINESS	CLEAN	WEAR & TEAR
05	4.08	1	US	61000	100	500	200	DIRTINESS	CLEAN	WEAR & TEAR
06	4.08	6	US	40000	1000	1000	300	DIRTINESS	CLEAN	WEAR & TEAR

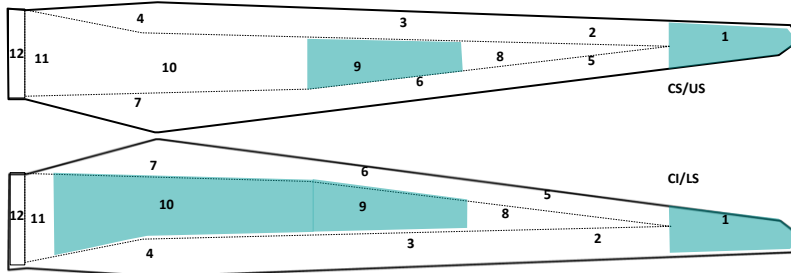


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	9	US	47000	200	100	900	DIRTINESS	CLEAN	WEAR & TEAR
02	1.03	1	US/LS	62000	0	10	10	3M TAPE BROKEN	REPLACE 3M TAPE	WEAR & TEAR
03	4.08	10	LS	3000	3000	20	20	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	9	LS	40000	900	300	300	DIRTINESS	CLEAN	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	61500	300	700	250	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	8	LS	55000	300	300	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

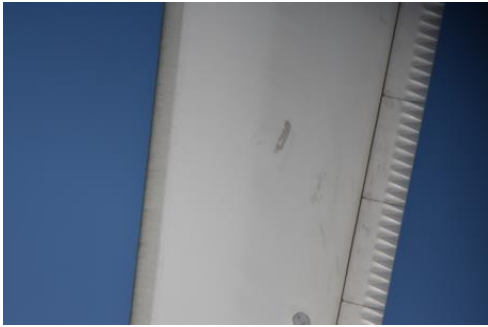
DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	9	LS	42000	1000	800	800	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	60000	200	100	50	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	8	LS	55000	500	20	20	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	9	LS	47000	300	500	500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	6	LS	40000	1000	1000	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
05	4.08	1	US	61000	100	500	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
06	4.08	6	US	40000	1000	1000	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	9	US	47000	200	100	900	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	1.03	1	US/LS	62000	0	10	10	3M TAPE BROKEN	REPLACE 3M TAPE	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	10	LS	3000	3000	20	20	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	9	LS	40000	900	300	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV04

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 20/05/2021

GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV04
FL:	WF-FR-052-2059-Y3-A-003
CLIENT:	TTR Energy
WO N°	501967613
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV04
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	4330000
LINE HOURS OK	6753
WTG HOURS OK	6023

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	20/05/2021
END DATE	20/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520441
BLADE WEIGHT (kg)	15452/15530
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE B

BLADE N°	LG1903520435
BLADE WEIGHT (kg)	15484/15526
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE C

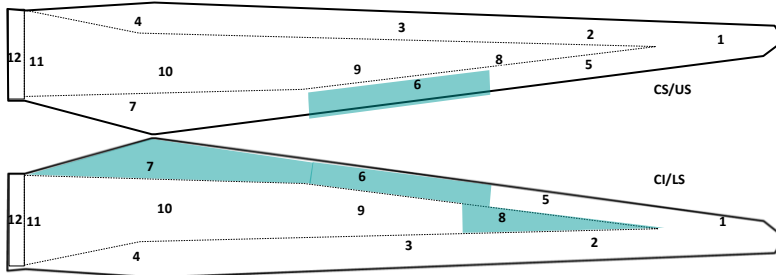
BLADE N°	LG1903520429
BLADE WEIGHT (kg)	15570/15570
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION

BLADE A

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	6	LS	38000	1500	1000	300	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	7	LS	10000	3200	20	20	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	8	LS	58000	350	100	100	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	6	US	42000	1500	800	300	DIRTINESS	CLEAN	WEAR & TEAR

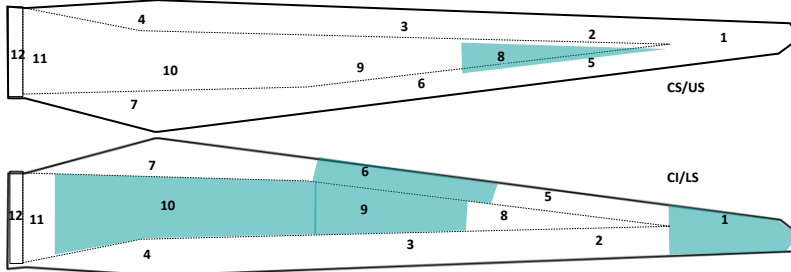


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	57000	200	100	500	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	6	US	45000	1000	300	300	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	9	US	47000	800	200	200	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	8	LS	50000	800	1000	250	DIRTINESS	CLEAN	WEAR & TEAR
05	4.08	10	LS	15000	2000	3000	400	DIRTINESS	CLEAN	WEAR & TEAR

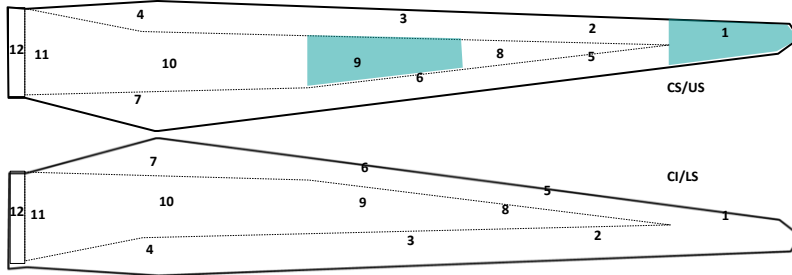


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	61500	300	50	50	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	9	US	45000	200	150	400	DIRTINESS	CLEAN	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	6	LS	38000	1500	1000	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	7	LS	10000	3200	20	20	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	8	LS	58000	350	100	100	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	6	US	42000	1500	800	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

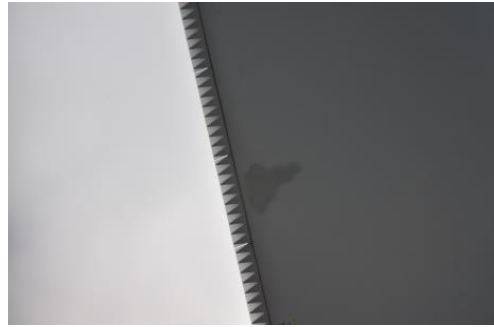
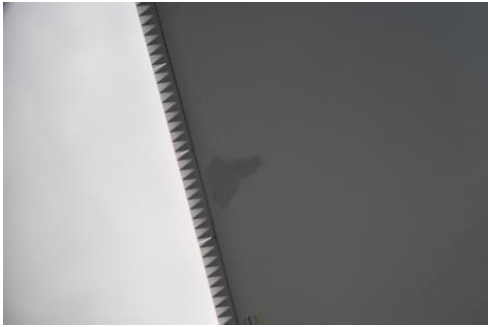
BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	57000	200	100	500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	6	US	45000	1000	300	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	9	US	47000	800	200	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	8	LS	50000	800	1000	250	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
05	4.08	10	LS	15000	2000	3000	400	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	61500	300	50	50	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	9	US	45000	200	150	400	DIRTINESS	CLEAN	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV05

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 20/05/2021

GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV05
FL:	WF-FR-052-2059-Y3-A-002
CLIENT:	TTR Energy
WO N°	501967612
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV05
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	834000
LINE HOURS OK	6794
WTG HOURS OK	5377

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	20/05/2021
END DATE	20/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520419
BLADE WEIGHT (kg)	15474/15474
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE B

BLADE N°	LG1903520422
BLADE WEIGHT (kg)	15482/15484
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

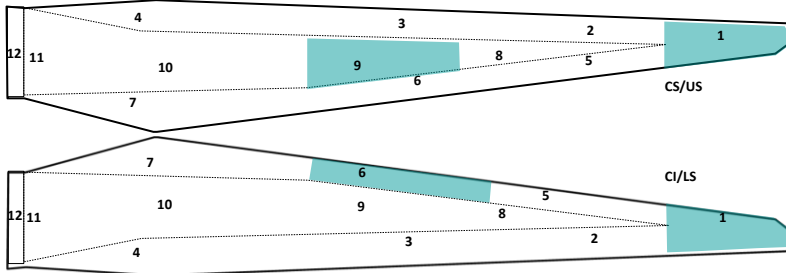
BLADE C

BLADE N°	LG1903520423
BLADE WEIGHT (kg)	15386/15438
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION
BLADE A

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	62000	150	150	150	DIRTINESS	CLEAN	WEAR & TEAR
02	4.11	9	US	42000	200	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
03	4.08	1	LS	62000	200	200	200	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	6	LS	42000	1000	200	300	DIRTINESS	CLEAN	WEAR & TEAR

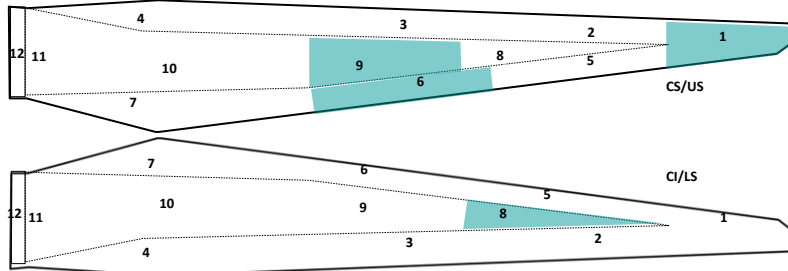


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	8	LS	51000	450	100	100	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	1	US	58000	200	100	300	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	6	US	45000	1000	300	300	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	9	US	48000	500	400	400	DIRTINESS	CLEAN	WEAR & TEAR

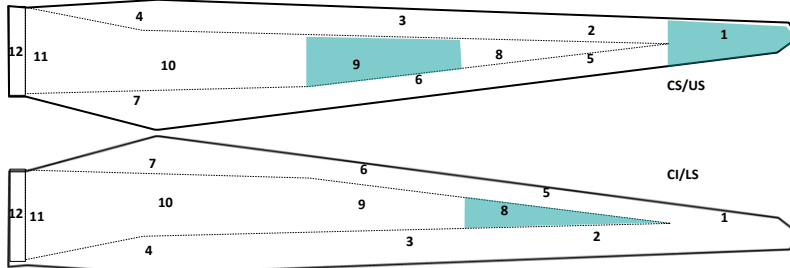


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	1	US	62000	200	150	60	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
02	4.08	1	US	58000	500	400	200	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	9	US	45000	1000	150	350	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	9	US	47000	700	500	300	DIRTINESS	CLEAN	WEAR & TEAR
05	4.09	8	LS	57000	300	200	200	DELAMINATION OF COAT	SAND, PAINT AND POLISH	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	62000	150	150	150	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.11	9	US	42000	200	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	1	LS	62000	200	200	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	6	LS	42000	1000	200	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

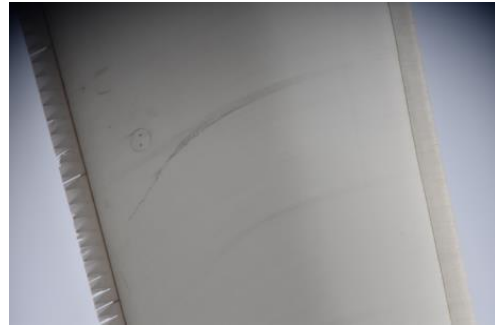
BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	8	LS	51000	450	100	100	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	1	US	58000	200	100	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	6	US	45000	1000	300	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	9	US	48000	500	400	400	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	1	US	62000	200	150	60	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



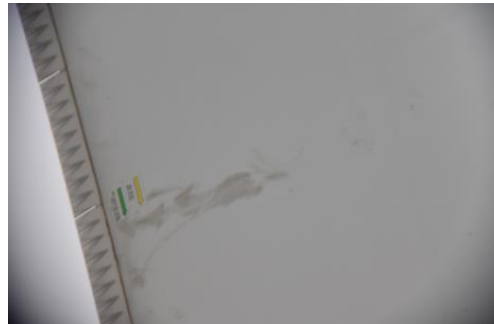
REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	1	US	58000	500	400	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	9	US	45000	1000	150	350	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	9	US	47000	700	500	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
05	4.09	8	LS	57000	300	200	200	DELAMINATION OF COAT	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV06

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 20/05/2021

GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV06
FL:	WF-FR-052-2059-Y2-A-003
CLIENT:	TTR Energy
WO N°	501967610
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV06
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	5413000
LINE HOURS OK	7124
WTG HOURS OK	6919

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	19/05/2021
END DATE	19/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520420
BLADE WEIGHT (kg)	15377/15422
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

BLADE B

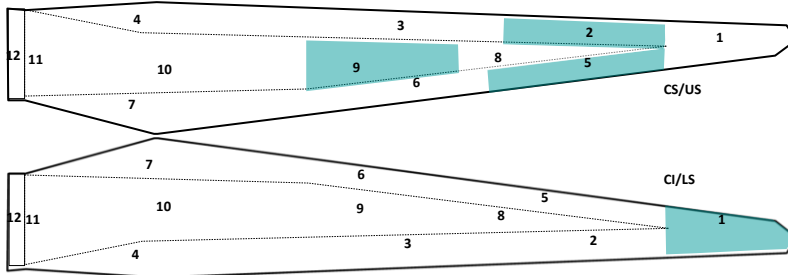
BLADE N°	LG1903520427
BLADE WEIGHT (kg)	15434
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

BLADE C

BLADE N°	LG1903520421
BLADE WEIGHT (kg)	15450/15448
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION
BLADE A

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	62500	150	500	300	DIRTINESS	CLEAN	WEAR & TEAR
02	4.03	2	US	44000	10	10	100	PEELING OF COAT IN LEADING EDGE AREA	SAND, PAINT AND POLISH	WEAR & TEAR
03	4.11	9	US	40000	300	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
04	4.08	5	US	43000	1200	100	200	DIRTINESS	CLEAN	WEAR & TEAR

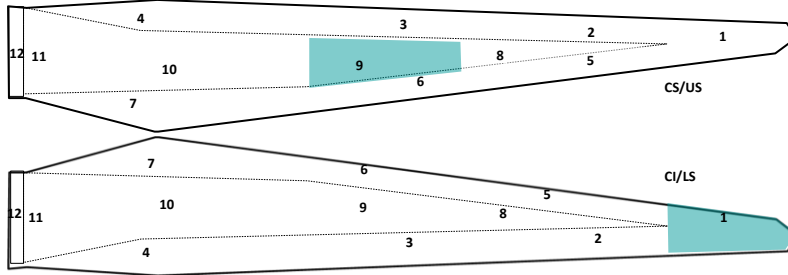


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	62000	150	50	100	DIRTINESS	CLEAN	WEAR & TEAR
02	4.11	9	US	40500	200	1000	1000	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
03	4.08	1	LS	62500	150	10	50	DIRTINESS	CLEAN	WEAR & TEAR

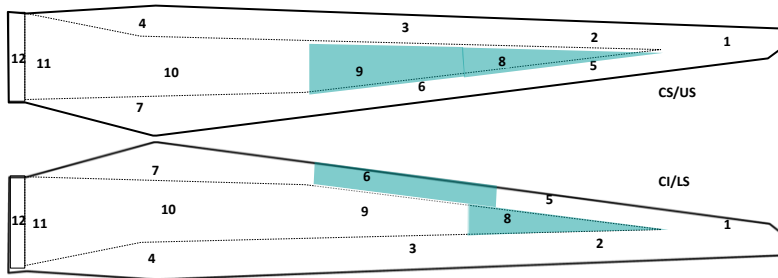


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	6	LS	40000	1200	400	60	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
02	4.08	8	LS	47000	500	50	80	DIRTINESS	CLEAN	WEAR & TEAR
03	4.11	9	US	41000	300	1000	1000	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
04	4.08	8	US	54000	300	200	500	DIRTINESS	CLEAN	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

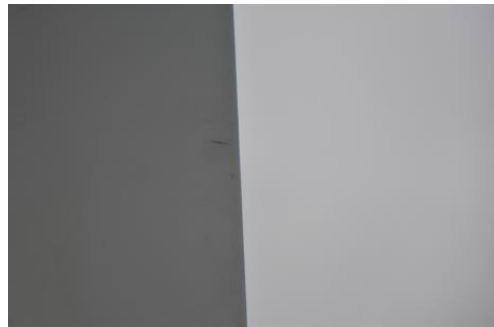
3. PHOTOS OF DAMAGES
BLADE A

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	62500	150	500	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.03	2	US	44000	10	10	100	PEELING OF COAT IN LEADING EDGE AREA	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	9	US	40000	300	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	5	US	43000	1200	100	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	62000	150	50	100	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.11	9	US	40500	200	1000	1000	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	1	LS	62500	150	10	50	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	6	LS	40000	1200	400	60	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	8	LS	47000	500	50	80	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	9	US	41000	300	1000	1000	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	8	US	54000	300	200	500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV07

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 20/05/2021

GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV07
FL:	WF-FR-052-2059-Y2-A-002
CLIENT:	TTR Energy
WO N°	501967609
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV07
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	5874000
LINE HOURS OK	7265
WTG HOURS OK	7075

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	20/05/2021
END DATE	20/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520438
BLADE WEIGHT (kg)	15418/15418
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: **GROUND**

BLADE B

BLADE N°	LG1903520437
BLADE WEIGHT (kg)	15438/15446
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: **GROUND**

BLADE C

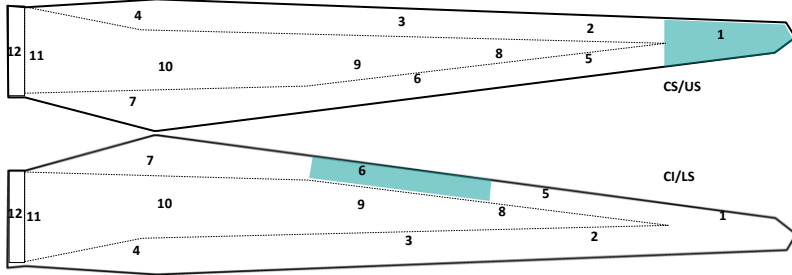
BLADE N°	LG1903520436
BLADE WEIGHT (kg)	15464/15464
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: **GROUND**

2. DAMAGE IDENTIFICATION AND EVALUATION

BLADE A

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	6	LS	40000	1800	300	300	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	1	US	59000	200	500	300	DIRTINESS	CLEAN	WEAR & TEAR

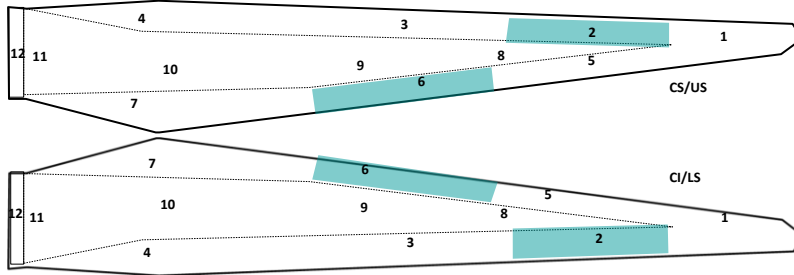


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)		DISTANCE (mm)				DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	1.03	2	US/LS	55000	0	100	50	3M TAPE BROKEN	REPLACE 3M TAPE	WEAR & TEAR
02	4.08	6	US	42000	1000	80	150	DIRTINESS	CLEAN	WEAR & TEAR
03	4.11	6	US/LS	40000	1400	1000	200	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR

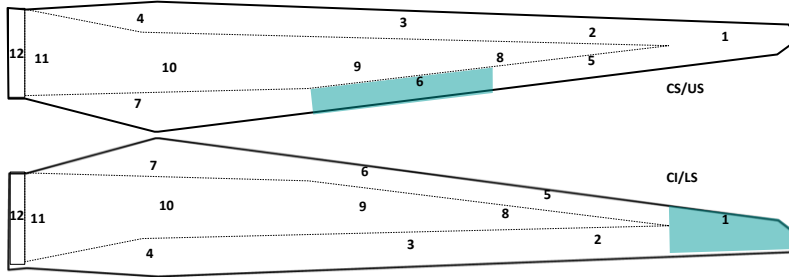


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	62000	100	10	100	DIRTINESS	CLEAN	WEAR & TEAR
02	4.11	6	US	42000	1400	800	150	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

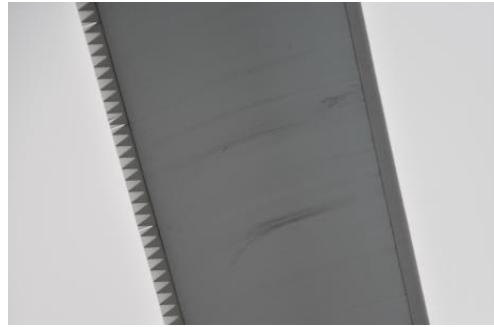
3. PHOTOS OF DAMAGES
BLADE A

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	6	LS	40000	1800	300	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	1	US	59000	200	500	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

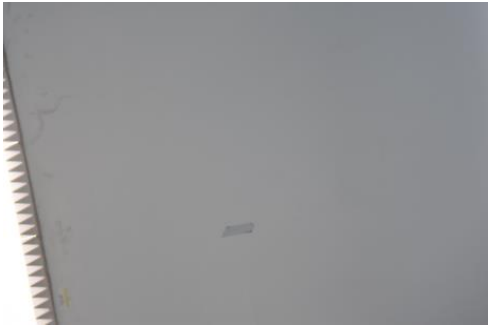
BLADE B

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	1.03	2	US/LS	55000	0	100	50	3M TAPE BROKEN	REPLACE 3M TAPE	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	6	US	42000	1000	80	150	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

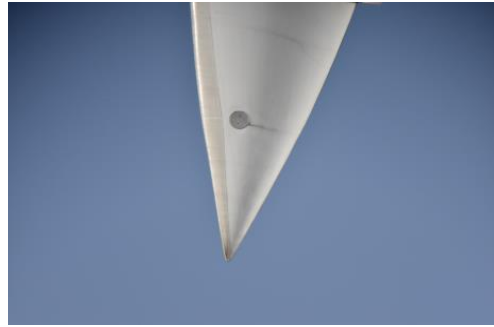
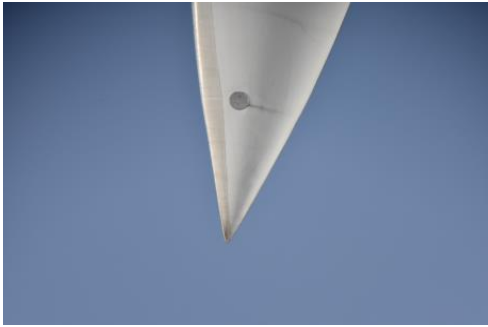
DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	6	US/LS	40000	1400	1000	200	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	62000	100	10	100	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.11	6	US	42000	1400	800	150	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV08

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 20/05/2021



GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV08
FL:	WF-FR-052-2059-Y2-A-001
CLIENT:	TTR Energy
WO N°	501967608
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV08
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	4844000
LINE HOURS OK	7440
WTG HOURS OK	7335

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	20/05/2021
END DATE	20/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520442
BLADE WEIGHT (kg)	15344
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

BLADE B

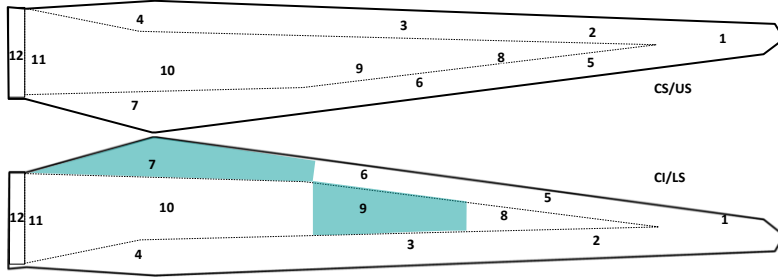
BLADE N°	LG1903520440
BLADE WEIGHT (kg)	15368
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

BLADE C

BLADE N°	LG1903520439
BLADE WEIGHT (kg)	15370
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION
BLADE A

DAMAGE	POSITION (mm)			DISTANCE (mm)				DESCRIPTION	WORK TO DO	BREAK CAUSE
	Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH			
01	4.08	7	LS	10000	3000	1000	500	DIRTINESS	CLEAN	WEAR & TEAR
02	4.11	9	LS	46000	500	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR

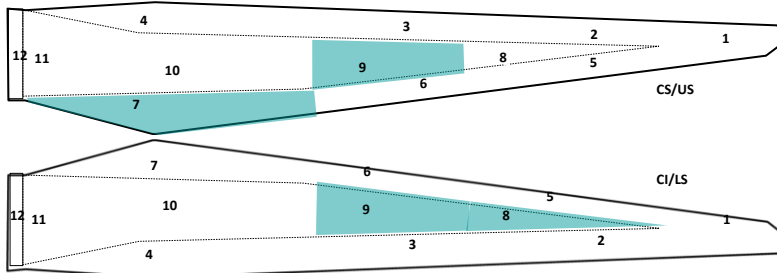


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	7	US	20000	4500	20	20	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
02	4.11	9	US	40000	100	1000	100	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
03	4.11	9	LS	47000	100	1000	100	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
04	4.08	8	LS	50000	600	200	400	DIRTINESS	CLEAN	WEAR & TEAR

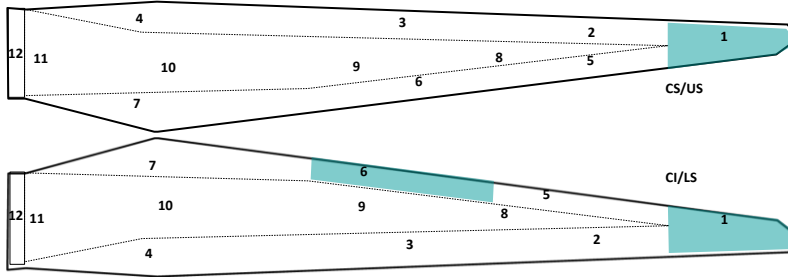


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	6	LS	40000	1400	400	100	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
02	1.03	1	US/LS	60000	0	100	50	3M TAPE BROKEN	REPLACE 3M TAPE	WEAR & TEAR

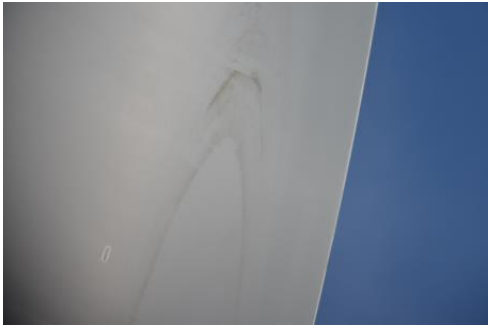


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	7	LS	10000	3000	1000	500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.11	9	LS	46000	500	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE B

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	7	US	20000	4500	20	20	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.11	9	US	40000	100	1000	100	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	9	LS	47000	100	1000	100	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	8	LS	50000	600	200	400	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	6	LS	40000	1400	400	100	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	1.03	1	US/LS	60000	0	100	50	3M TAPE BROKEN	REPLACE 3M TAPE	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV09

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 21/05/2021



GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV09
FL:	WF-FR-052-2059-Y3-A-001
CLIENT:	TTR Energy
WO N°	501967611
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV09
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	4947000
LINE HOURS OK	7052
WTG HOURS OK	6827

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	20/05/2021
END DATE	20/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520416
BLADE WEIGHT (kg)	15628
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE B

BLADE N°	LG1903520417
BLADE WEIGHT (kg)	15416/15474
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE C

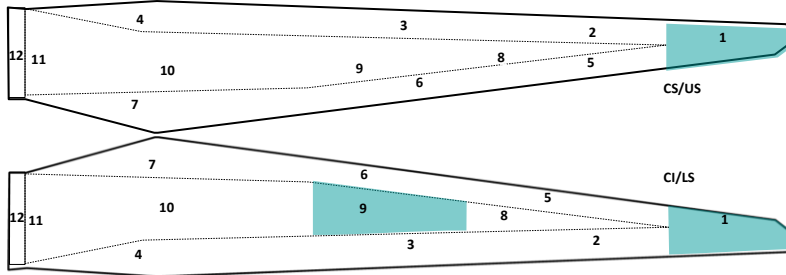
BLADE N°	LG1903520418
BLADE WEIGHT (kg)	15496/15508
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION

BLADE A

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	59000	200	2000	200	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	9	LS	47000	800	1000	50	DIRTINESS	CLEAN	WEAR & TEAR
03	4.11	9	US	42000	200	800	800	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR

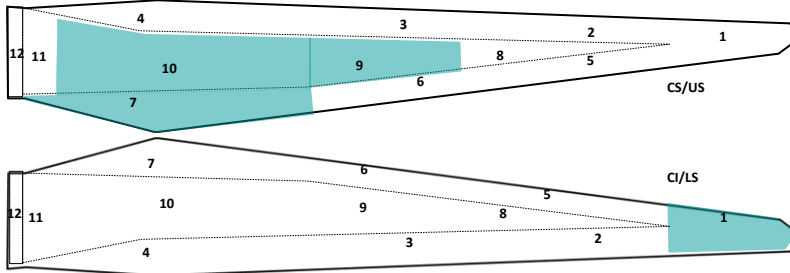


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	9	US	42000	200	500	600	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
02	4.08	10	US	10000	2500	150	150	DIRTINESS	CLEAN	WEAR & TEAR
03	4.11	7	US	17000	4000	100	20	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
04	4.08	1	LS	60000	300	200	150	DIRTINESS	CLEAN	WEAR & TEAR

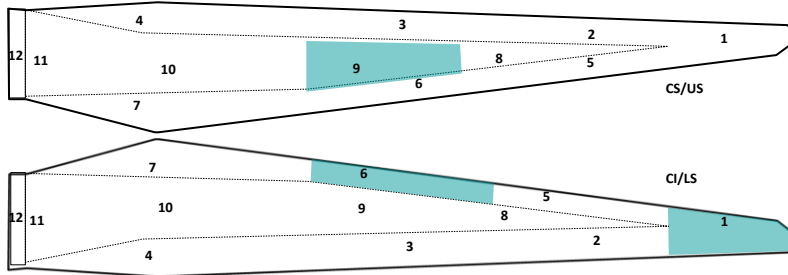


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	61000	250	400	150	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	6	LS	42000	1000	1000	500	DIRTINESS	CLEAN	WEAR & TEAR
03	4.11	9	US	42000	200	400	400	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

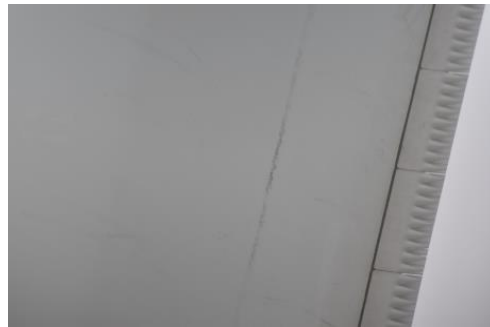
3. PHOTOS OF DAMAGES
BLADE A

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	59000	200	2000	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	9	LS	47000	800	1000	50	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	9	US	42000	200	800	800	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	9	US	42000	200	500	600	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	10	US	10000	2500	150	150	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	7	US	17000	4000	100	20	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	1	LS	60000	300	200	150	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

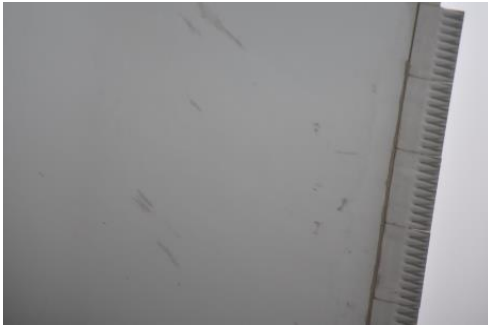
BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	LS	61000	250	400	150	DIRTINESS	CLEAN	WEAR & TEAR



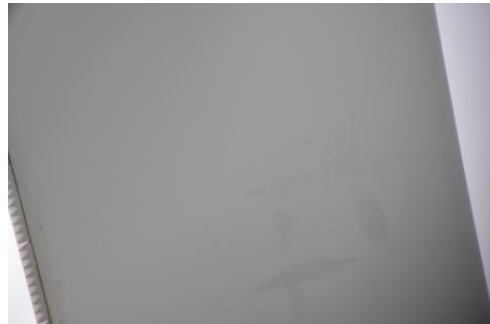
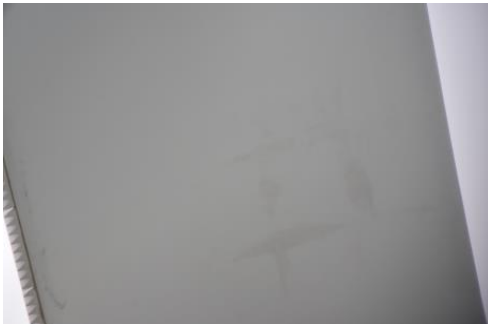
REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	6	LS	42000	1000	1000	500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	9	US	42000	200	400	400	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV10

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 21/05/2021

GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV10
FL:	WF-FR-052-2059-Y4-A-003
CLIENT:	TTR Energy
WO N°	501967616
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV10
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	518000
LINE HOURS OK	7761
WTG HOURS OK	7479

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	21/05/2021
END DATE	21/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520413
BLADE WEIGHT (kg)	15588
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE B

BLADE N°	LG1903520411
BLADE WEIGHT (kg)	15506
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

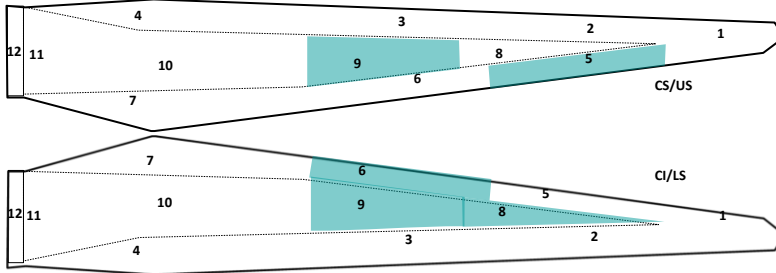
BLADE C

BLADE N°	LG1903520415
BLADE WEIGHT (kg)	15594
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION
BLADE A

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	8	LS	54000	350	300	300	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	9	LS	49000	350	250	250	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	6	LS	42000	1400	1000	200	DIRTINESS	CLEAN	WEAR & TEAR
04	5.26	5	US	55000	750	10	10	FALTA DINO TAILS	PLACE DINO TAILS	WEAR & TEAR
05	4.11	9	US	43000	200	500	600	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR

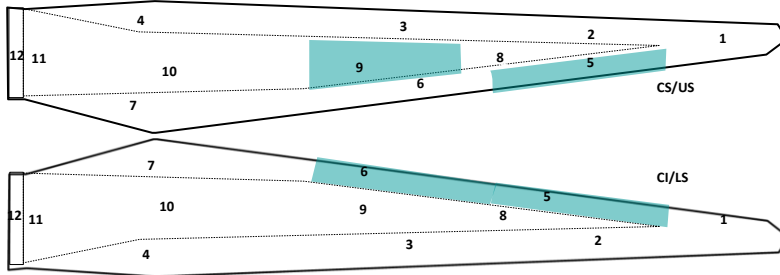


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	9	US	43000	200	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
02	4.08	6	LS	42000	1400	1000	300	DIRTINESS	CLEAN	WEAR & TEAR
03	5.26	5	US/LS	50000	800	200	20	FALTA DINO TAILS	PLACE DINO TAILS	WEAR & TEAR

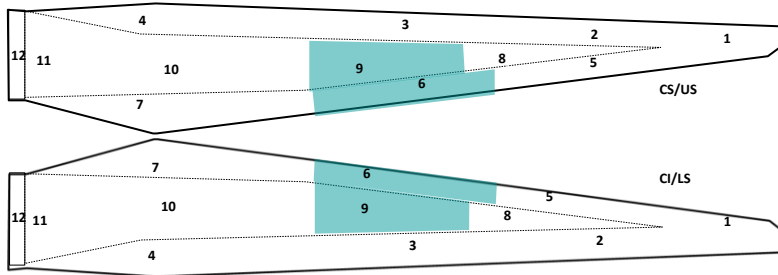


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	9	LS	47000	350	700	300	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	9	LS	45000	400	20	20	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	6	US/LS	43000	1400	500	500	DIRTINESS	CLEAN	WEAR & TEAR
04	4.11	9	US	42000	200	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	8	LS	54000	350	300	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	9	LS	49000	350	250	250	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	6	LS	42000	1400	1000	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	5.26	5	US	55000	750	10	10	FALTA DINO TAILS	PLACE DINO TAILS	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
05	4.11	9	US	43000	200	500	600	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	9	US	43000	200	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	6	LS	42000	1400	1000	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	5.26	5	US/LS	50000	800	200	20	FALTA DINO TAILS	PLACE DINO TAILS	WEAR & TEAR



REMARK

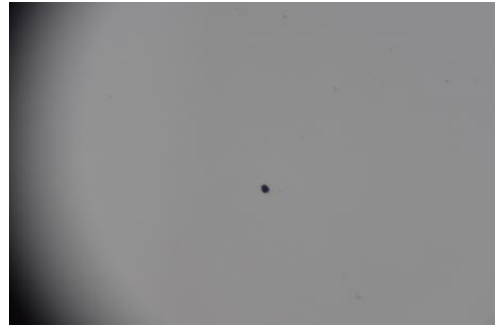
BLADE C

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	9	LS	47000	350	700	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	9	LS	45000	400	20	20	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	6	US/LS	43000	1400	500	500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.11	9	US	42000	200	500	500	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV11

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 21/05/2021

GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV11
FL:	WF-FR-052-2059-Y4-A-001
CLIENT:	TTR Energy
WO N°	501967614
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV11
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	5967000
LINE HOURS OK	7918
WTG HOURS OK	7603

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	21/05/2021
END DATE	21/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520409
BLADE WEIGHT (kg)	155/15524
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE B

BLADE N°	LG1903520408
BLADE WEIGHT (kg)	15480/15996
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

BLADE C

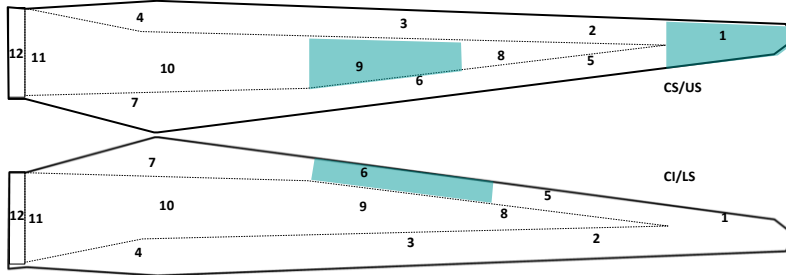
BLADE N°	LG1903520407
BLADE WEIGHT (kg)	15532/15532
MANUFACTURER	Gamesa
BLADE FINISHED	YES

INTERVENTION TYPE: GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION

BLADE A

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	62000	100	400	300	DIRTINESS	CLEAN	WEAR & TEAR
02	4.11	9	US	42000	150	600	600	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
03	4.08	6	LS	42000	1400	1000	300	DIRTINESS	CLEAN	WEAR & TEAR

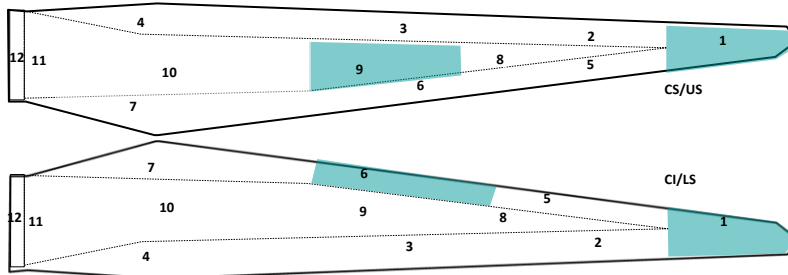


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	6	LS	45000	1400	1000	400	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	1	LS	62000	100	500	250	DIRTINESS	CLEAN	WEAR & TEAR
03	4.11	9	US	45000	300	800	800	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
04	4.08	1	US	60000	400	250	150	DIRTINESS	CLEAN	WEAR & TEAR

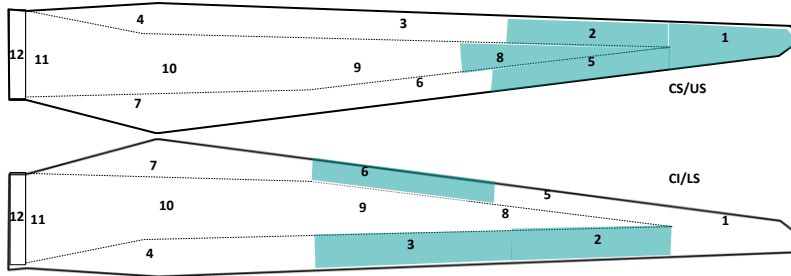


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	5	US	50000	800	200	300	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	8	US	58000	400	1000	200	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	1	US	60000	150	50	100	DIRTINESS	CLEAN	WEAR & TEAR
04	1.03	2	US/LS	54000	0	10	10	3M TAPE BROKEN	REPLACE 3M TAPE	WEAR & TEAR
05	4.08	6	LS	45000	1200	1000	200	DIRTINESS	CLEAN	WEAR & TEAR
06	4.06A	3	LS	45000	10	200	200	CHANGE OF COLOUR AND CRAZING (WITH COAT)	SAND, PAINT AND POLISH	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	62000	100	400	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.11	9	US	42000	150	600	600	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	6	LS	42000	1400	1000	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	6	LS	45000	1400	1000	400	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	1	LS	62000	100	500	250	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.11	9	US	45000	300	800	800	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	1	US	60000	400	250	150	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	5	US	50000	800	200	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	8	US	58000	400	1000	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	1	US	60000	150	50	100	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	1.03	2	US/LS	54000	0	10	10	3M TAPE BROKEN	REPLACE 3M TAPE	WEAR & TEAR



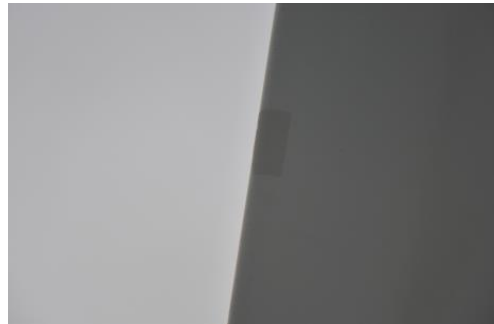
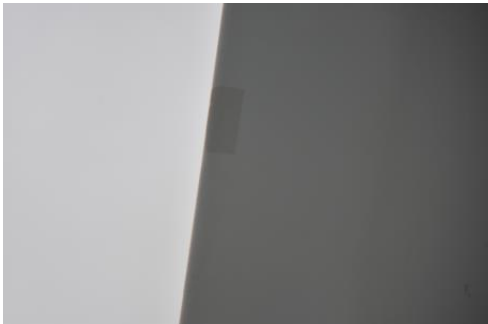
REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
05	4.08	6	LS	45000	1200	1000	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE Nº	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
06	4.06A	3	LS	45000	10	200	200	CHANGE OF COLOUR AND CRAZING (WITH COAT)	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK



SIEMENS Gamesa

RENEWABLE ENERGY

BLADE INSPECTION REPORT



TTR Energy

Osne Le Val OV12

SIEMENS Gamesa Renewable Energy

GLOBAL OPERATIONS

Avda. Ciudad de la Innovación 2,
31621 Sarriguren (Navarra) - Spain

Ref.: INOMG-PL-REP-001-ES

Date: 21/05/2021

GLOBAL OPERATIONS

WIND FARM:	Osne Le Val
WTG:	OV12
FL:	WF-FR-052-2059-Y4-A-002
CLIENT:	TTR Energy
WO N°	501967615
SC	FRANCE
SC RESPONSIBLE	SEBASTIEN ENGERRAN
SUPERVISOR	RENAUD CHARPENTIER



1. DATA

1.1 WIND TURBINE DATA

WIND FARM	Osne Le Val
WTG N°	OV12
WTG MODEL	G 126
CLIENT	TTR Energy
COUNTRY	FRANCE
SERVICE CENTRE	FRANCE
PRODUCTION (kWh)	6196000
LINE HOURS OK	7403
WTG HOURS OK	7299

1.2 INTERVENTION DATA

CRANE COMPANY	
START DATE	21/05/2021
END DATE	21/05/2021

	TECHNICIAN	CODE	COMPANY	CODE
1	DANIEL CORTES	464245	RESGREEN EUROPE, S.L.	239059
2	JON ALBERDI	1024177	RESGREEN EUROPE, S.L.	239059
3			-	-
4			-	-

1.3 BLADE IDENTIFICATION

BLADE A

BLADE N°	LG1903520414
BLADE WEIGHT (kg)	15474/15490
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

BLADE B

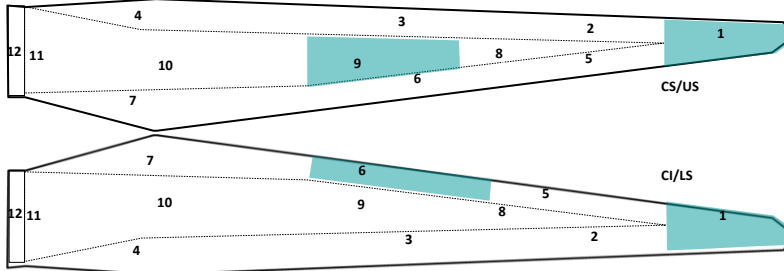
BLADE N°	LG1903520412
BLADE WEIGHT (kg)	15522/15522
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

BLADE C

BLADE N°	LG1903520410
BLADE WEIGHT (kg)	15496/15534
MANUFACTURER	Gamesa
BLADE FINISHED	YES
INTERVENTION TYPE	GROUND

2. DAMAGE IDENTIFICATION AND EVALUATION
BLADE A

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	60000	250	200	100	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	9	US	45000	300	1500	1500	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	1	LS	62000	250	150	150	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	6	LS	45000	1400	1000	250	DIRTINESS	CLEAN	WEAR & TEAR

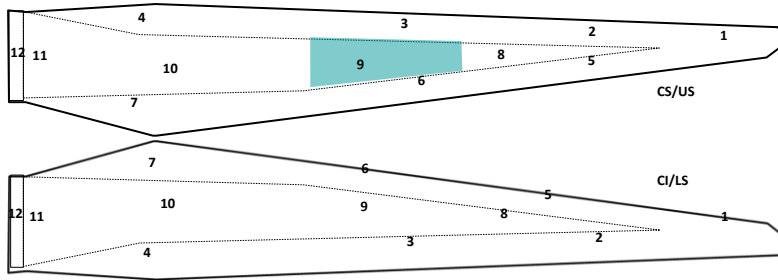


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR
01	4.11	9	US	43000	250	700	700			

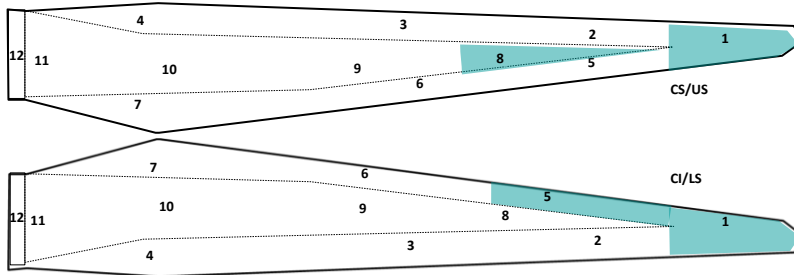


ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

BLADE C

Nº	DAMAGE CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO DO	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	61000	200	60	300	DIRTINESS	CLEAN	WEAR & TEAR
02	4.08	8	US	57000	300	200	300	DIRTINESS	CLEAN	WEAR & TEAR
03	4.08	1	LS	60000	250	500	100	DIRTINESS	CLEAN	WEAR & TEAR
04	4.08	5	LS	55000	500	3000	200	DIRTINESS	CLEAN	WEAR & TEAR



ZONES

- 1 TIP
- 2 TIP LEADING EDGE
- 3 MEDIUM LEADING EDGE
- 4 ROOT LEADING EDGE
- 5 TIP TRAILING EDGE
- 6 MEDIUM TRAILING EDGE
- 7 ROOT TRAILING EDGE
- 8 SPAR AREA TIP
- 9 SPAR AREA MEDIUM
- 10 SPAR AREA ROOT
- 11 ROOT
- 12 INTERIOR ROOT

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	60000	250	200	100	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	9	US	45000	300	1500	1500	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	1	LS	62000	250	150	150	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

3. PHOTOS OF DAMAGES
BLADE A

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	6	LS	45000	1400	1000	250	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE B

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.11	9	US	43000	250	700	700	MARKS	SAND, PAINT AND POLISH	WEAR & TEAR



REMARK

BLADE C

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
01	4.08	1	US	61000	200	60	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
02	4.08	8	US	57000	300	200	300	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

DAMAGE N°	CODE	POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
		ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
03	4.08	1	LS	60000	250	500	100	DIRTINESS	CLEAN	WEAR & TEAR



REMARK

BLADE C

DAMAGE		POSITION (mm)			DISTANCE (mm)			DESCRIPTION	WORK TO BE DONE	BREAK CAUSE
Nº	CODE	ZONE	SHELL	ROOT	LE	LENGTH	TRANS			
04	4.08	5	LS	55000	500	3000	200	DIRTINESS	CLEAN	WEAR & TEAR



REMARK