



scopito

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THE FUTURE OF VISUAL INSPECTIONS

Natural Power Demo Data

Report date:
Dec 1, 2020

Type:
Wind Turbine

Company:
Scopito Demo 1

Annotations:
35

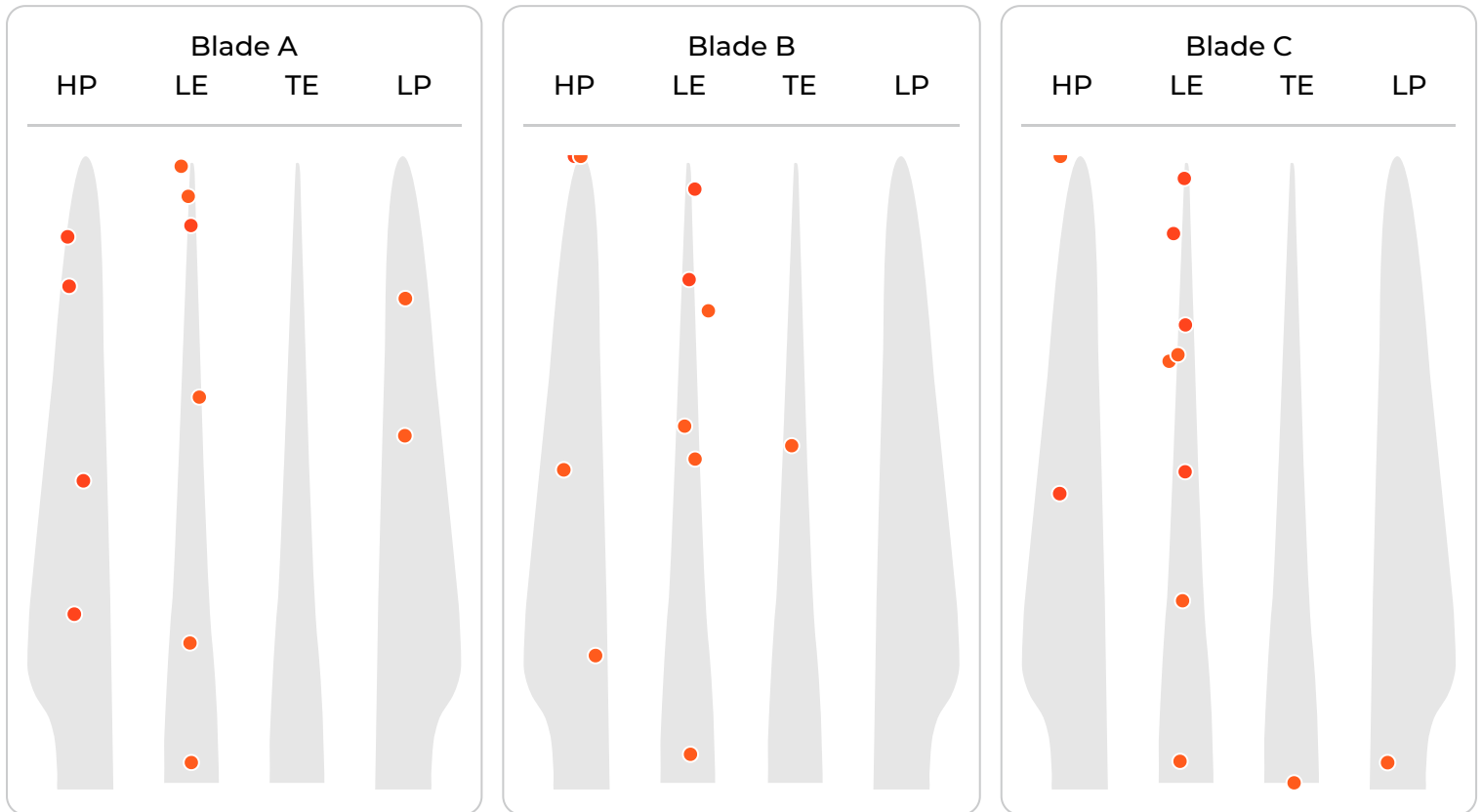


Natural Power Demo Data - Summary

****This is a DEMO report****

All blades show signs of heavy LE erosion specifically along the bond line with multiple LE cracks visible. All blades are in otherwise good general condition.

The data was acquired using an automated flight trajectory with Natural Power's AscentPro software.



Severity POI	Severity 1	Severity 2	Severity 3	Severity 4	Severity 5
Point of interest	Cosmetic	Similar to cosmetic	Damage, non-serious	Serious damage	Very serious damage
Needs further investigation	No intervention needed	Intervention done if other damage exists	Intervention done during planned WTG inspection	Rectify in the next 3 months	Intervention immediately

Blade	Side	Issues	Severity	Size	MR	Page
Blade A	HP	Damage - Fiber	4	1022mm x 678mm	30.1m	22
Blade A	HP	Damage - Fiber	4	279mm x 395mm	27.2m	22
Blade A	HP	Damage - Fiber	4	101mm x 72mm	17.1m	21
Blade A	HP	Damage - Fiber	4	198mm x 141mm	9.8m	21
Blade A	LE	Damage - Gel Coat	4	5225mm x 492mm	30.6m	19
Blade B	HP	Damage - Fiber	4	74mm x 120mm	32.3m	16
Blade B	LE	Damage - Gel Coat	4	1323mm x 2111mm	31.4m	12
Blade B	LE	Crack	4	1436mm x 3218mm	36.0m	12
Blade C	HP	Crack	4	467mm x 314mm	12.6m	10

Natural Power Demo Data

Blade	Side	Issues	Severity	Size	MR	Page
Blade C	LE	Damage - Gel Coat	4	2174mm x 2575mm	38.4m	9
Blade C	LE	Crack	4	1980mm x 3473mm	33.8m	9
Blade C	LE	Crack	4	672mm x 1168mm	29.3m	8
Blade C	LE	Crack	4	494mm x 739mm	18.8m	7
Blade A	LE	Damage - Gel Coat	3	472mm x 64mm	33.3m	20
Blade A	LE	Crack	3	645mm x 84mm	32.0m	20
Blade A	LE	Gel coat chip	3	1754mm x 177mm	21.0m	19
Blade A	LE	Gel coat chip	3	989mm x 153mm	7.4m	18
Blade A	LE	Gel coat chip	3	1468mm x 221mm	0.3m	18
Blade A	LP	Damage - Gel Coat	3	15mm x 52mm	23.4m	17
Blade A	LP	Gel coat chip	3	53mm x 250mm	14.7m	17
Blade B	HP	Gel coat chip	3	187mm x 181mm	33.1m	16
Blade B	HP	Gel coat chip	3	36mm x 31mm	16.5m	15
Blade B	HP	Damage - Gel Coat	3	144mm x 149mm	6.4m	15
Blade B	LE	Damage - Gel Coat	3	1646mm x 1079mm	1.6m	14
Blade B	LE	Gel coat chip	3	42mm x 52mm	19.4m	14
Blade B	LE	Gel coat chip	3	112mm x 120mm	22.5m	13
Blade B	LE	Gel coat chip	3	198mm x 254mm	27.0m	13
Blade B	TE	Damage - Gel Coat	3	90mm x 112mm	28.6m	11
Blade C	HP	Damage - Gel Coat	3	300mm x 250mm	27.7m	10
Blade C	LE	Gel coat chip	3	1318mm x 2227mm	26.4m	8
Blade C	LE	Gel coat chip	3	64mm x 88mm	24.7m	7
Blade C	LE	Gel coat chip	3	26mm x 27mm	11.2m	6
Blade C	LE	Damage - Gel Coat	3	1785mm x 1139mm	0.1m	6
Blade C	LP	Gel coat chip	3	31mm x 15mm	0.2m	5

Blade	Side	Issues	Severity	Size	MR	Page
Blade C	TE	Gel coat chip	3	26mm x 27mm	0.2m	4

1



app.scopito.com/#/inspection/16304?image=6917898

Issue Type:

Gel coat chip

Severity:



Distance from root:

0.2m

Size:

26mm x 27mm

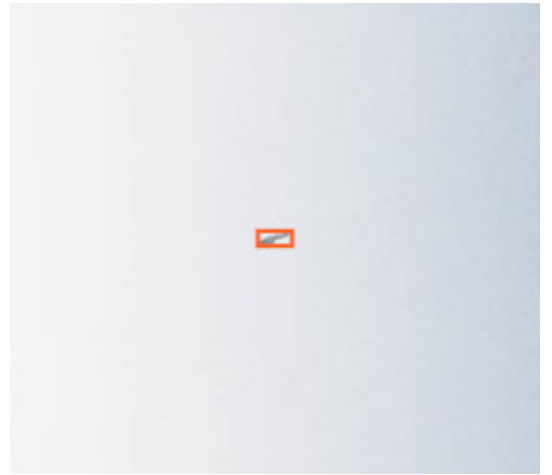
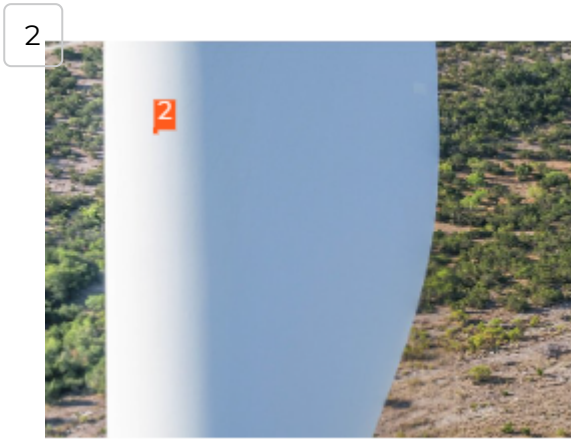
Comments:

Chris Rawsley:
Gel coat chip on TE

Remedy Action:

Repair within 6 months

1



app.scopito.com/#/inspection/16304?image=6917944

Issue Type:

Gel coat chip

Severity:



Distance from root:

0.2m

Size:

31mm x 15mm

Comments:

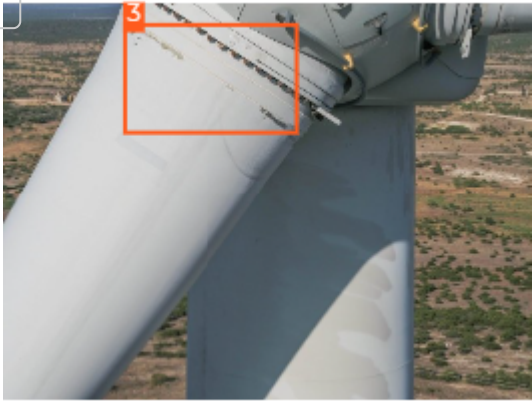
Chris Rawnsley:
Gel coat chip

Remedy Action:

Repair within 6 months

2

3



app.scopito.com/#/inspection/16304?image=6917949

Issue Type: **Damage - Gel Coat** | Severity: 3

Distance from root: **0.1m** | Size: **1785mm x 1139mm**

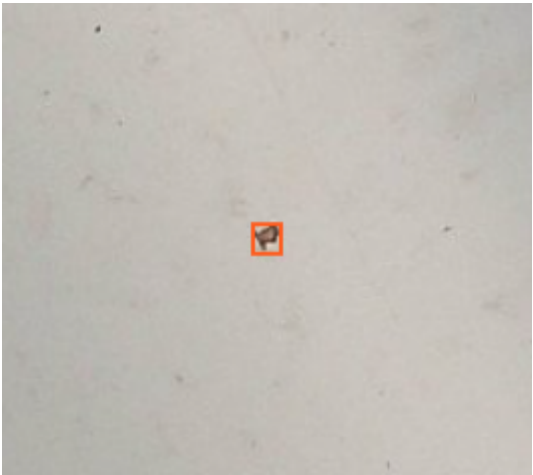
🗨️ **Comments:**

Chris Rawnsley:
Peeling gel coat on root end with exposed laminate.

🔧 **Remedy Action:**

Repair within 6 months

4



app.scopito.com/#/inspection/16304?image=6917958

Issue Type: **Gel coat chip** | Severity: 3

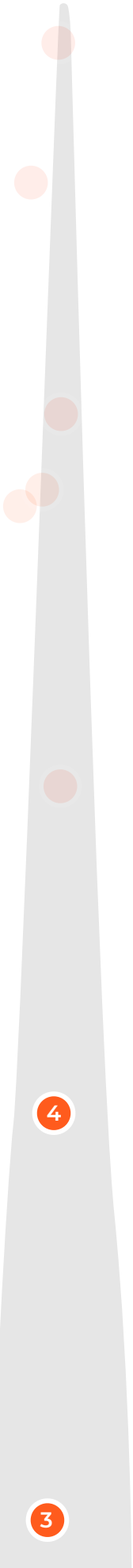
Distance from root: **11.2m** | Size: **26mm x 27mm**

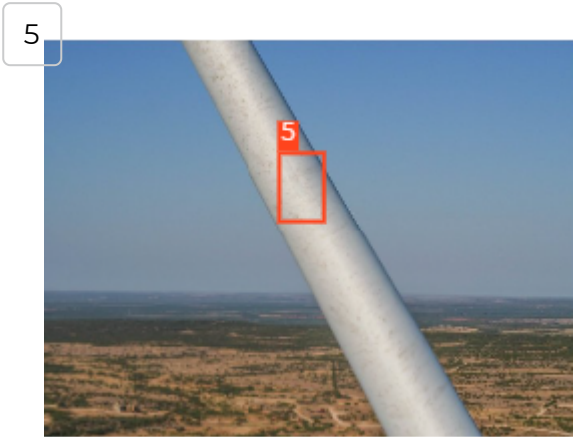
🗨️ **Comments:**

Chris Rawnsley:
Large gel coat chip on LE toward the root

🔧 **Remedy Action:**

Repair within 6 months





app.scopito.com/#/inspection/16304?image=6917963

Issue Type: Crack | Severity: 4

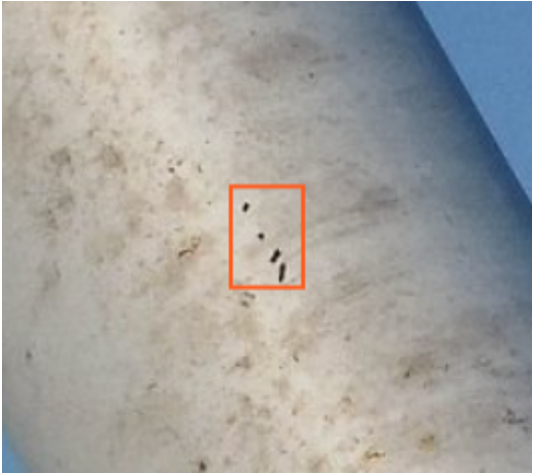
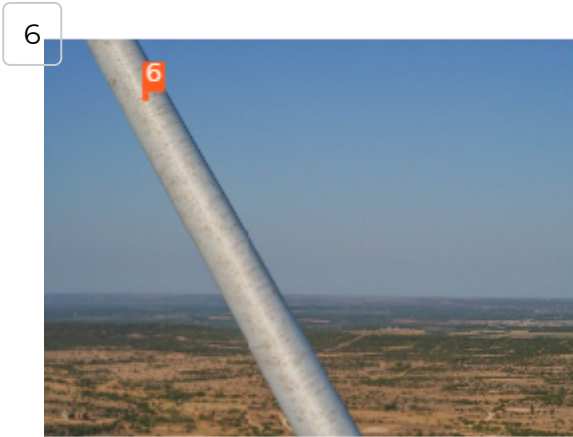
Distance from root: 18.8m | Size: 494mm x 739mm

Comments:

Chris Rawnsley:
Possible failed LE crack repair.

Remedy Action:

Repair within 3 months



app.scopito.com/#/inspection/16304?image=6917967

Issue Type: Gel coat chip | Severity: 3

Distance from root: 24.7m | Size: 64mm x 88mm

Comments:

Chris Rawnsley:
Gel coat chips in LE

Remedy Action:

Repair within 6 months



app.scopito.com/#/inspection/16304?image=6917968

Issue Type: **Gel coat chip** | Severity: 3

Distance from root: **26.4m** | Size: **1318mm x 2227mm**

🗨️ **Comments:**

Chris Rawnsley:
Multiple gel coat damages on LE

🔧 **Remedy Action:**

Repair within 6 months



app.scopito.com/#/inspection/16304?image=6917970

Issue Type: **Crack** | Severity: 4

Distance from root: **29.3m** | Size: **672mm x 1168mm**

🗨️ **Comments:**

Chris Rawnsley:
Area of exposed laminate and LE bondline with possible damage to bond line, also showing a possible LE crack.

🔧 **Remedy Action:**

Repair within 3 months

10

9

9



app.scopito.com/#/inspection/16304?image=6917973

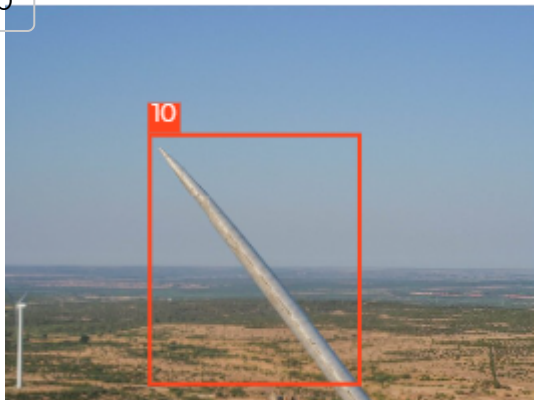
Issue Type: Crack | Severity: 4

Distance from root: 33.8m | Size: 1980mm x 3473mm

Comments: Chris Rawnsley: Further evidence of LE crack, along with multiple gelcoat chips.

Remedy Action: Repair within 3 months

10



app.scopito.com/#/inspection/16304?image=6917976

Issue Type: Damage - Gel Coat | Severity: 4

Distance from root: 38.4m | Size: 2174mm x 2575mm

Comments: Chris Rawnsley: Further gelcoat damage along the LE bond line towards the tip, along with damages that carry onto the shell.

Remedy Action: Repair within 3 months

11

11



app.scopito.com/#/inspection/16304?image=6917978

Issue Type: **Damage - Gel Coat** | Severity: 3

Distance from root: **27.7m** | Size: **300mm x 250mm**

Comments:

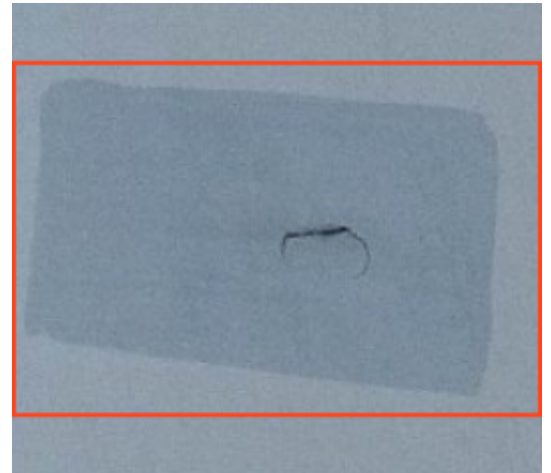
Chris Rawnsley:
Gelcoat damage around outer edge of LPS receptor.

Remedy Action:

Repair within 6 months

12

12



app.scopito.com/#/inspection/16304?image=6917988

Issue Type: **Crack** | Severity: 4

Distance from root: **12.6m** | Size: **467mm x 314mm**

Comments:

Chris Rawnsley:
Possible failed repair, crack in shell.

Remedy Action:

Repair within 3 months

13



app.scopito.com/#/inspection/16304?image=6918019

Issue Type:

Damage - Gel Coat

Severity:



Distance from root:

28.6m

Size:

90mm x 112mm

Comments:

Chris Rawnsley:
Gecoat on receptor damaged

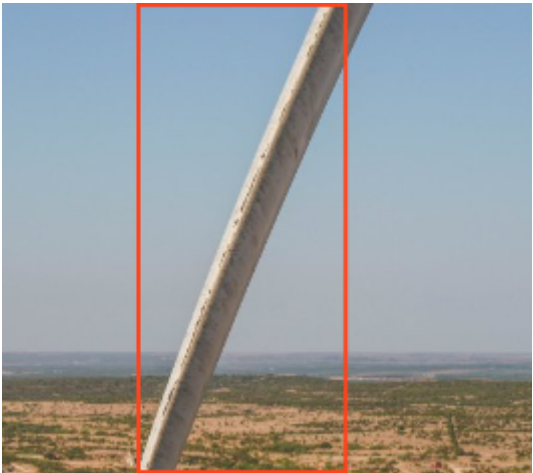
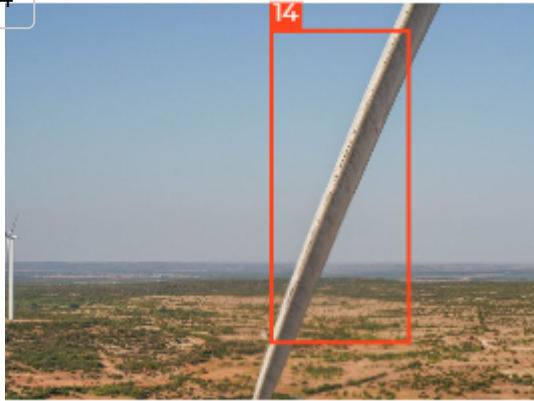
Remedy Action:

Repair within 6 months

13

14

14



app.scopito.com/#/inspection/16304?image=6918058

Issue Type: Crack | Severity: 4

Distance from root: 36.0m | Size: 1436mm x 3218mm

🗨️ Comments:

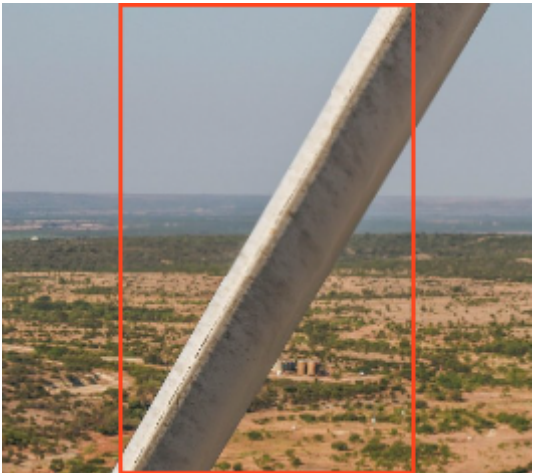
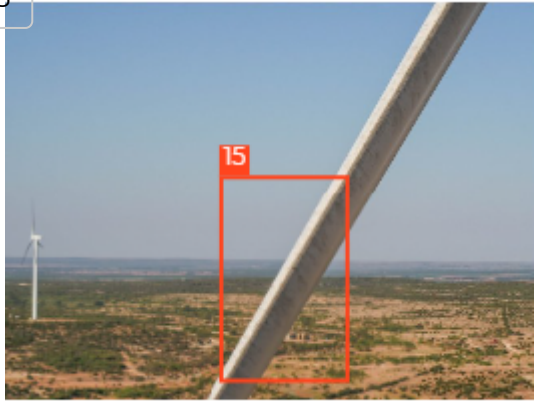
Chris Rawnsley:
Large area of LE erosion concentrated on the bond line, Possible crack.

🔧 Remedy Action:

Repair within 3 months

15

15



app.scopito.com/#/inspection/16304?image=6918061

Issue Type: Damage - Gel Coat | Severity: 4

Distance from root: 31.4m | Size: 1323mm x 2111mm

🗨️ Comments:

Chris Rawnsley:
Further LE gelcoat damage along bond line.

🔧 Remedy Action:

Repair within 3 months



16



app.scopito.com/#/inspection/16304?image=6918064

Issue Type: **Gel coat chip** | Severity: 1 2 3 4 5

Distance from root: **27.0m** | Size: **198mm x 254mm**

🗨️ **Comments:**

Chris Rawnsley:
 |Multiple LE gel coat chips.

🔧 **Remedy Action:**

 Repair within 6 months

17



app.scopito.com/#/inspection/16304?image=6918067

Issue Type: **Gel coat chip** | Severity: 1 2 3 4 5

Distance from root: **22.5m** | Size: **112mm x 120mm**

🗨️ **Comments:**

Chris Rawnsley:
 Multiple large gelcoat chips.

🔧 **Remedy Action:**

 Repair within 6 months

18



app.scopito.com/#/inspection/16304?image=6918069

Issue Type: Gel coat chip | Severity: 3

Distance from root: 19.4m | Size: 42mm x 52mm

Comments:

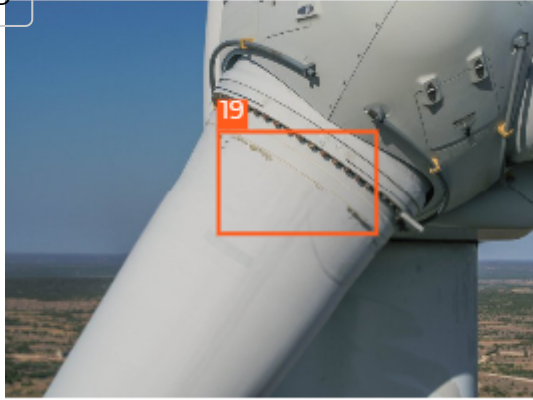
Chris Rawnsley:
Large gelcoat chip

Remedy Action:

Repair within 6 months

18

19



app.scopito.com/#/inspection/16304?image=6918081

Issue Type: Damage - Gel Coat | Severity: 3

Distance from root: 1.6m | Size: 1646mm x 1079mm

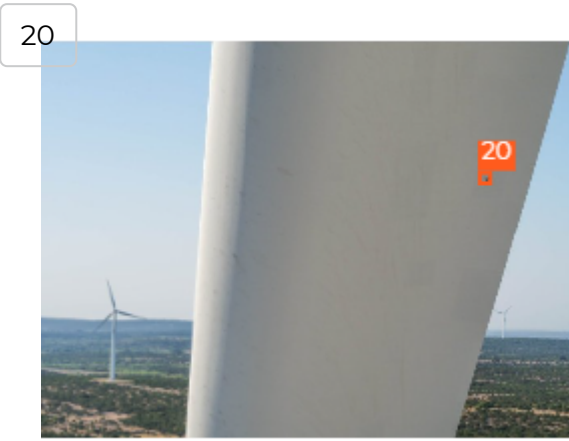
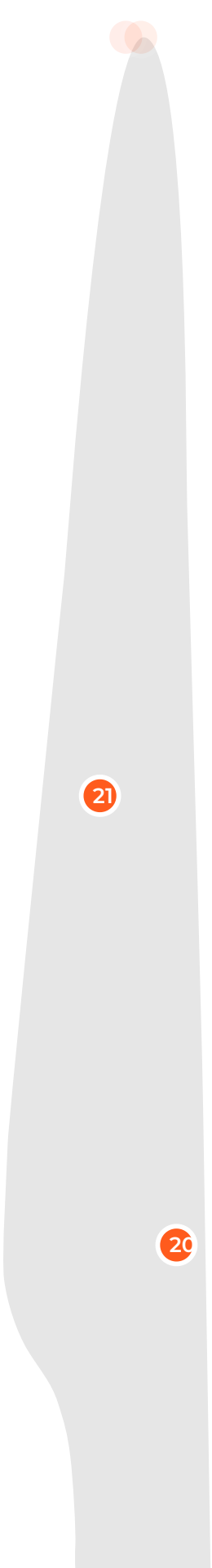
Comments:

Chris Rawnsley:
Multiple areas of damaged gelcoat around the root, laminate visible.

Remedy Action:

Repair within 6 months

19



app.scopito.com/#/inspection/16304?image=6918090

Issue Type: **Damage - Gel Coat** | Severity: **3**

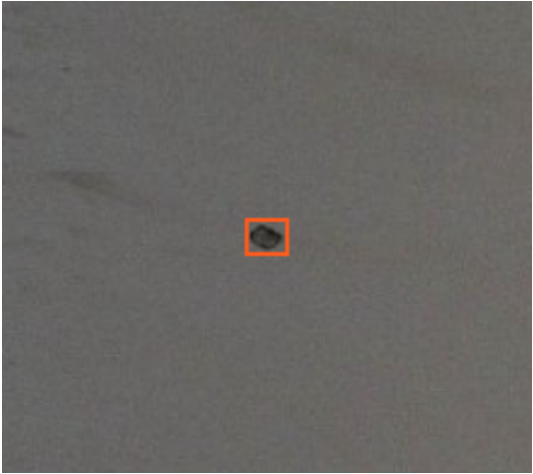
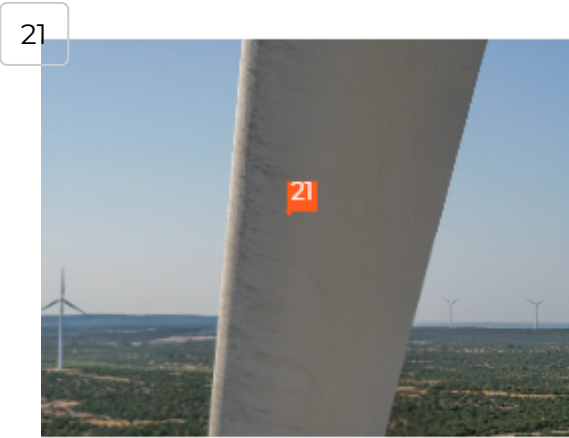
Distance from root: **6.4m** | Size: **144mm x 149mm**

Comments:

Chris Rawnsley:
Gel coat damaged around LPS receptor

Remedy Action:

Repair within 6 months



app.scopito.com/#/inspection/16304?image=6918097

Issue Type: **Gel coat chip** | Severity: **3**

Distance from root: **16.5m** | Size: **36mm x 31mm**

Comments:

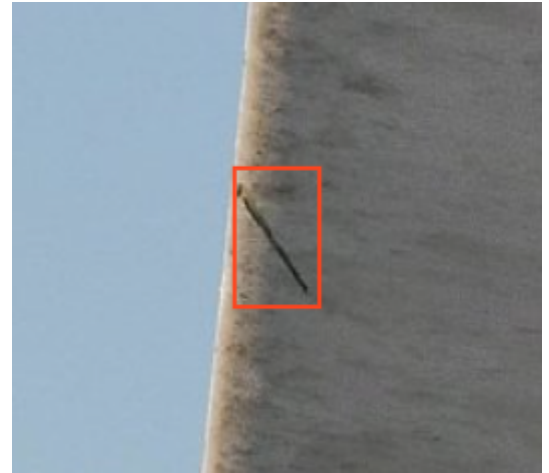
Chris Rawnsley:
Large gelcoat chip on shell.

Remedy Action:

Repair within 6 months

23

22



app.scopito.com/#/inspection/16304?image=6918108

Issue Type: **Damage - Fiber** | Severity: **4**

Distance from root: **32.3m** | Size: **74mm x 120mm**

Comments:

Chris Rawnsley:
Large chip on LE, possible outer laminate damaged due the the nature of the damage.

Remedy Action:

Repair within 6 months

23



app.scopito.com/#/inspection/16304?image=6918109

Issue Type: **Gel coat chip** | Severity: **3**

Distance from root: **33.1m** | Size: **187mm x 181mm**

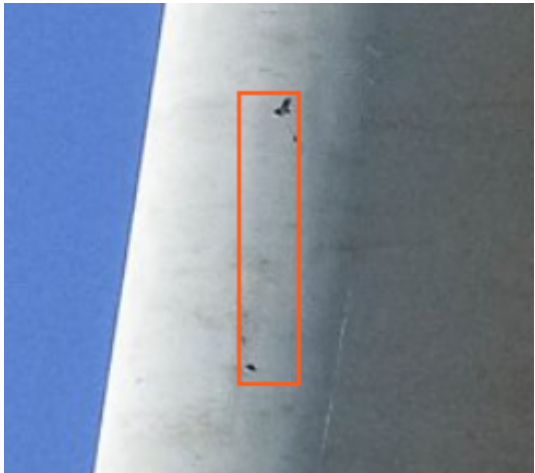
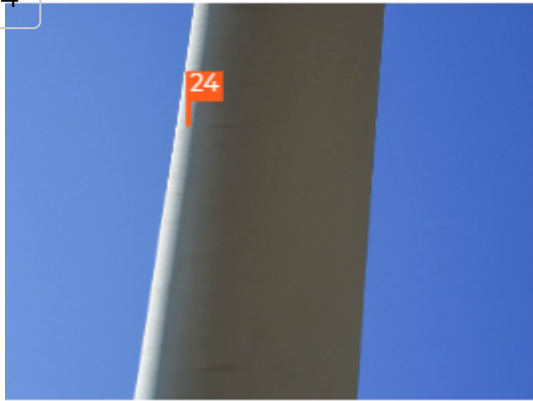
Comments:

Chris Rawnsley:
Gelcoat chips around LPS tip receptor.

Remedy Action:

Repair within 6 months

24



app.scopito.com/#/inspection/16304?image=6918141

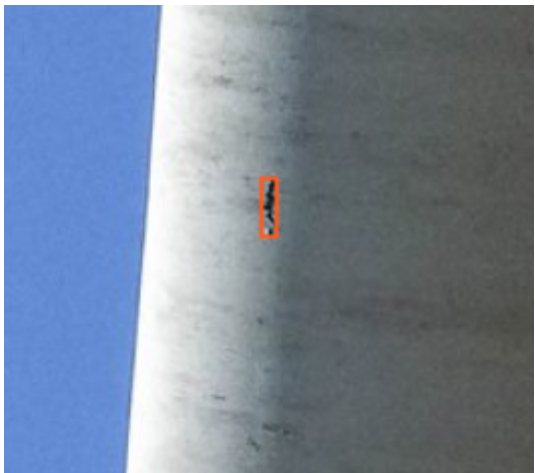
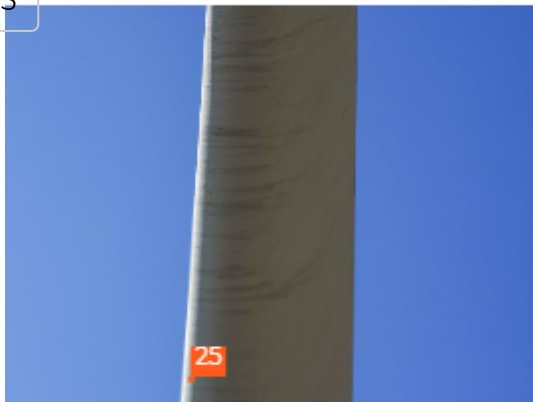
Issue Type: Gel coat chip | Severity: 3

Distance from root: 14.7m | Size: 53mm x 250mm

Comments: Chris Rawnsley: 2x Gelcoat chips | Remedy Action: Repair within 6 months

25

25



app.scopito.com/#/inspection/16304?image=6918147

Issue Type: Damage - Gel Coat | Severity: 3

Distance from root: 23.4m | Size: 15mm x 52mm

Comments: Chris Rawnsley: Gelcoat damage on previous repair | Remedy Action: Repair within 6 months

24

26



app.scopito.com/#/inspection/16304?image=6918157

Issue Type:

Gel coat chip

Severity:



Distance from root:

0.3m

Size:

1468mm x 221mm

Comments:

Chris Rawnsley:

Gelcoat chips toward the root, likely air bubbles within the original gelcoat.

Remedy Action:

Repair within 6 months

27



app.scopito.com/#/inspection/16304?image=6918162

Issue Type:

Gel coat chip

Severity:



Distance from root:

7.4m

Size:

989mm x 153mm

Comments:

Chris Rawnsley:

3x Large gelcoat chips

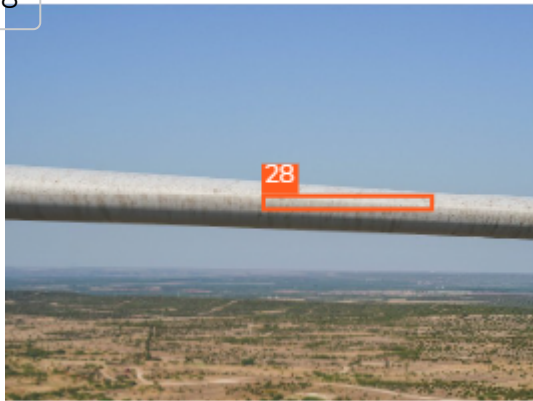
Remedy Action:

Repair within 6 months

27

26

28



app.scopito.com/#/inspection/16304?image=6918172

Issue Type: **Gel coat chip** | Severity: 3

Distance from root: **21.0m** | Size: **1754mm x 177mm**

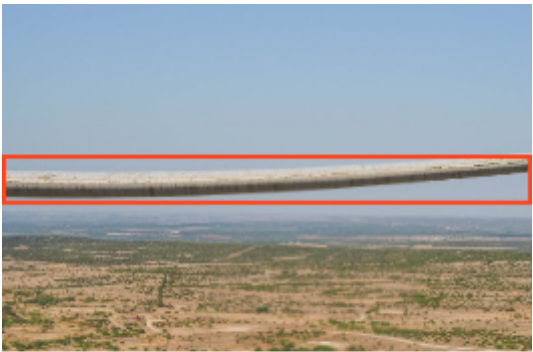
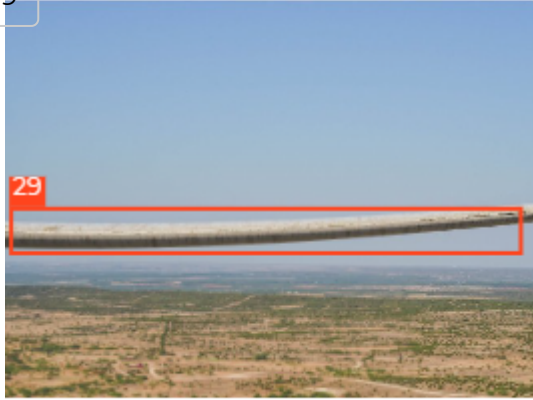
🗨️ **Comments:**

Chris Rawnsley:
Multiple LE gelcoat chips

🔧 **Remedy Action:**

Repair within 6 months

29



app.scopito.com/#/inspection/16304?image=6918179

Issue Type: **Damage - Gel Coat** | Severity: 4

Distance from root: **30.6m** | Size: **5225mm x 492mm**

🗨️ **Comments:**

Chris Rawnsley:
Large area of damaged gelcoat along LE bond line with multiple areas of eroded bond line.

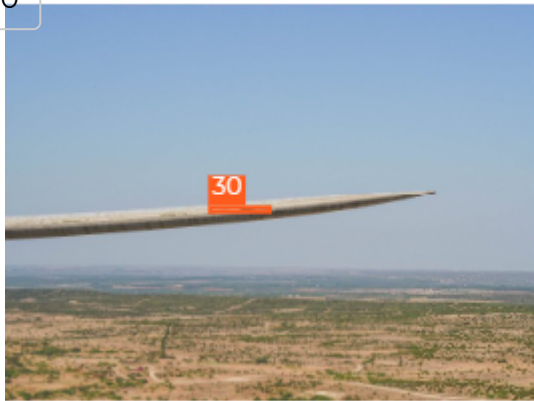
🔧 **Remedy Action:**

Repair within 3 months

31

30

30



app.scopito.com/#/inspection/16304?image=6918180

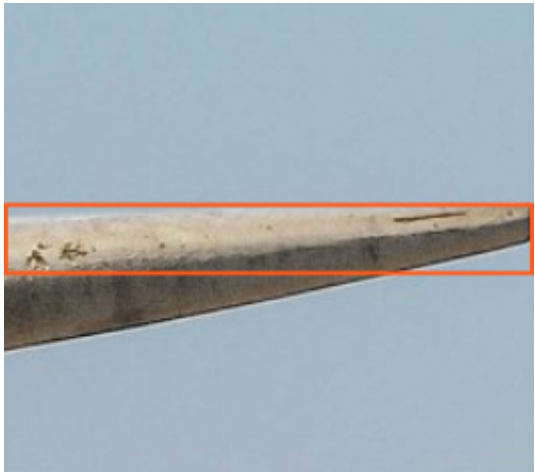
Issue Type: Crack | Severity: 3

Distance from root: 32.0m | Size: 645mm x 84mm

Comments: Chris Rawnsley: Damaged gelcoat and possible crack in LE bondline.

Remedy Action: Repair within 3 months

31



app.scopito.com/#/inspection/16304?image=6918181

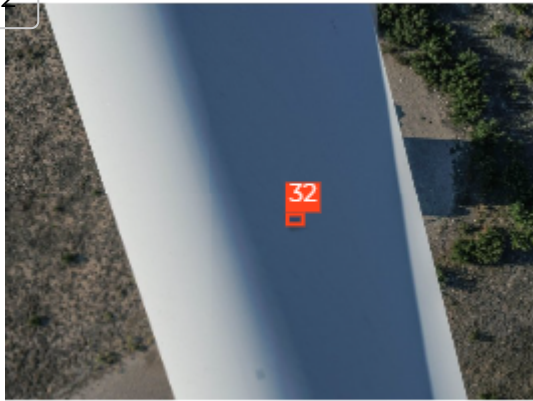
Issue Type: Damage - Gel Coat | Severity: 3

Distance from root: 33.3m | Size: 472mm x 64mm

Comments: Chris Rawnsley: Damaged gelcoat on LE towards the tip

Remedy Action: Repair within 6 months

32



app.scopito.com/#/inspection/16304?image=6918190

Issue Type: **Damage - Fiber** | Severity: 4

Distance from root: **9.8m** | Size: **198mm x 141mm**

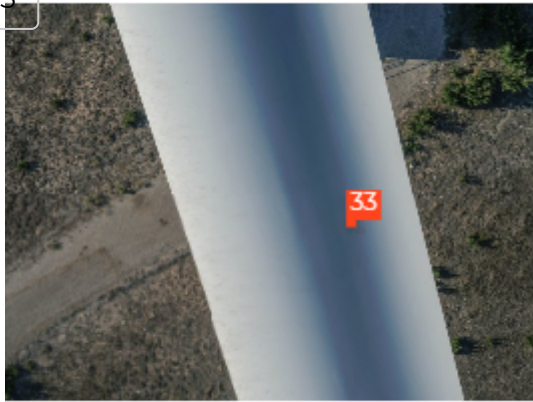
🗨️ **Comments:**

Chris Rawnsley:
Possible failed repair on shell.

🔧 **Remedy Action:**

Repair within 3 months

33



app.scopito.com/#/inspection/16304?image=6918195

Issue Type: **Damage - Fiber** | Severity: 4

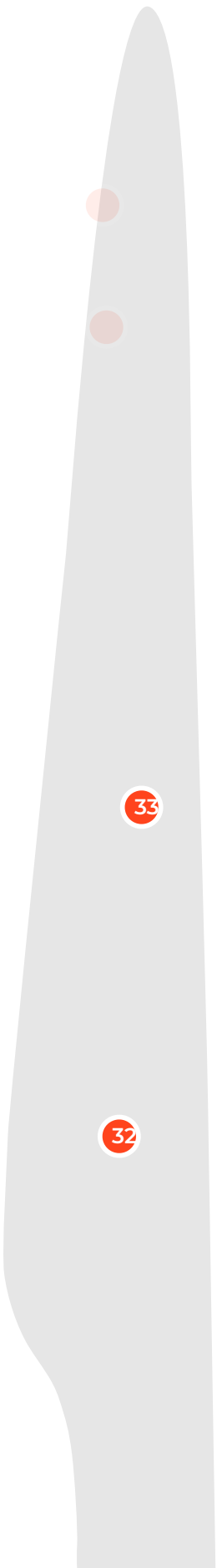
Distance from root: **17.1m** | Size: **101mm x 72mm**

🗨️ **Comments:**

Chris Rawnsley:
Possible failed repair on shell.

🔧 **Remedy Action:**

Repair within 3 months



35

34

34



app.scopito.com/#/inspection/16304?image=6918202

Issue Type: **Damage - Fiber** | Severity: **4**

Distance from root: **27.2m** | Size: **279mm x 395mm**

Comments:

Chris Rawnsley:
3 x large chips with visible laminate, likely outer laminate damage.

Remedy Action:

Repair within 3 months

35



app.scopito.com/#/inspection/16304?image=6918204

Issue Type: **Damage - Fiber** | Severity: **4**

Distance from root: **30.1m** | Size: **1022mm x 678mm**

Comments:

Chris Rawnsley:
4 x large chips on LE, with laminate visible. Likely outer laminate damaged.

Remedy Action:

within 3 months