

## *Carpet quality comparison*



# *Introduction*

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Serving all major airframe manufacturers and airlines, Lantal is a leader in the design, production, and distribution of textiles and services for the international community of aircraft, bus, and railway operators. Lantal has an excellent global reputation not only for creative textiles but also for premium carpets.

Lantal is the only single-source textile mill in the world that produces carpets, velvets and flat weaves for the transportation industry.

We have more than 130 years of experience in developing specific textile solutions for our customers.

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## *Lantal's wool standard carpets*

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Wool carpets are natural, high-performance floorcoverings for hospitable aircraft cabin interiors.

Lantal's wool carpets are designed for service in Economy, Business, and First Class sections both on short- and long-haul routes.



# *Lantal's wool standard carpets*

## *Key advantages*

- Long-lasting visual appeal and superior looks
- Soft texture for enhanced underfoot comfort
- Natural insulating properties, both acoustic and thermal
- The wool fiber has intrinsic properties to prevent soiling. The natural oils and the structure of the fiber absorb the dirt and make it less visible.
- Wool is a resilient fiber which recovers after being compressed





# *Lantal's wool standard carpets*

## *Technical data*

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### Wool standard

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<b>Composition</b>	100% wool
<b>Weight</b>	1'500 g/m <sup>2</sup> – 1'960 g/m <sup>2</sup> (± 5%)
<b>Design</b>	Many design possibilities, no color limitations
<b>Width</b>	200 cm / 252 cm
<b>MOQ</b>	200 lm
<b>Specification</b>	FAR/CS 25.853 ABD 0031 / BMS
<b>Qualification</b>	Airbus: Qualified Boeing: Qualified

# *Lantal's wool standard carpets*

## *Key features*



### **Service lifetime**

Abrasion: Hexapod tests of the quality revealed a service lifetime\* of:

- aisles approx. 4 – 8 months
- under seats approx. 12 – 18 months

Hardwearing: Hexapod test grade 3.0 – 3.5 out of 5

Brightening: Slight optical brightening during use

Soiling: The wool fiber has intrinsic properties to prevent soiling. The natural oils and the structure of the fiber absorb the dirt and make it less visible.

\*The specific service lifetime depends largely on the airline's interior philosophy (design, colors), routing (long-haul, short-haul), geographical routes, load factors and cleaning attitudes.



# *Lantal's wool standard carpets*

## *Key features*



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### **Dimensional stability**

Thanks to an improved basic construction and coating Lantal's "Wool standard" carpets have a very good dimensional stability of  $\pm 0.5\%$  or better, which fulfills the Airbus specification EN986 ( $\leq 1\%$ ) as well as the Boeing specification BSS 7310 ( $\pm 0.5\%$ ).

### **Specification**

Lantal carpets are permanently flame-resistant in accordance with FAR/CS 25.853, 12 sec. vertical, and meet the Airbus (ABD 0031) and Boeing (BMS 8-237) specifications for smoke and toxicity if cleaned according to Lantal cleaning recommendations. They also fulfill the Boeing requirements regarding electrostatic properties (BSS 7311).



## *Lantal's wool blend 80/20 carpets*

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Lantal's Wool/Polyamide 80/20 carpets are optimized with regard to weight and abrasion and combine the best properties of wool and polyamide.

Wool/Polyamide 80/20 carpets are characterized by longevity and high underfoot comfort. They durably suppress static charging and comply with all airworthiness requirements.



# *Lantal's wool blend 80/20 carpets*

## *Key advantages*

- Very good abrasion resistance, excellent service life
- Less optical brightening than wool carpets due to the share of polyamide fiber
- Optimized surface treatment for excellent hygienic properties
- High walking comfort due to the share of wool
- Intrinsic properties to prevent soiling due to the high share of wool.



# *Lantal's wool blend 80/20 carpets*

## *Technical data*

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### **Wool/Polyamide 80/20**

<b>Composition</b>	80% wool, 20% polyamide
<b>Weight</b>	1'450- 1'850 g/m <sup>2</sup> (± 5%)
<b>Design</b>	Customized designs
<b>Width</b>	200 cm / 252 cm
<b>MoQ</b>	200 lm
<b>Specification</b>	FAR/CS 25.853 ABD 0031 / BMS
<b>Qualification</b>	Airbus: Qualified Boeing: In progress



# *Lantal's wool blend 80/20 carpets*

## *Key features*



### **Service lifetime**

Abrasion: Hexapod tests of the quality revealed a service lifetime\* of:

- aisles approx. 7 – 10 months
- under seats approx. 14 – 20 months

Hardwearing: Hexapod test grade 3.75 – 4.0 out of 5

Brightening: Less optical brightening than standard wool carpets in use, due to the share of polyamide fiber

Soiling: The wool fiber has intrinsic properties to prevent soiling. The natural oils and the structure of the fiber absorb the dirt and make it less visible.

\*The specific service lifetime depends largely on the airline's interior philosophy (design, colors), routing (long-haul, short-haul), geographical routes, load factors and cleaning attitudes.



# *Lantal's wool blend 80/20 carpets*

## *Key features*



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### **Dimensional stability**

Thanks to an improved basic construction and coating Lantal's Wool/Polyamide 80/20 carpets have a very good dimensional stability of  $\pm 0.5\%$  or better, which fulfills the Airbus specification EN986 ( $\leq 1\%$ ) as well as the Boeing specification BSS 7310 ( $\pm 0.5\%$ ).

### **Specification**

Lantal carpets are permanently flame-resistant in accordance with FAR/CS 25.853, 12 sec. vertical, and meet the Airbus (ABD 0031) and Boeing (BMS 8-237) specifications for smoke and toxicity if cleaned according to Lantal cleaning recommendations. They also fulfill the Boeing requirements regarding electrostatic properties (BSS 7311).

## *Lantal's polyamide standard carpets*

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Lantal's polyamide carpets are weight-optimized and – due to its ruggedness – very suitable for high short-haul passenger frequencies.

They feature a synthetic fiber back weave as well as a latex back coating and can be custom-woven to accommodate signature elements of your livery.





# *Lantal's polyamide standard carpets*

## *Key advantages*



- Perceptibly lighter than standard wool carpets
- The use of polyamide filament yarns reduces the weight of the carpet without impairing abrasion resistance
- Hardwearing, excellent service lifetime
- Nylon fibers have their own character; in terms of coloration, the carpet looks shinier compared to wool carpets
- Many design options and 112 yarn colors are available
- Latest-generation polyamide yarns minimize soil adhesion, easier soil removal



# *Lantal's polyamide standard carpets*

## *Technical data*



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### **Polyamide standard**

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<b>Composition</b>	100% polyamide
<b>Weight</b>	1'350- 1'450 g/m <sup>2</sup> (± 5%)
<b>Design</b>	Many design possibilities 112 yarn colors
<b>Width</b>	200 cm / 252 cm
<b>MoQ</b>	1'000 lm
<b>Specification</b>	FAR/CS 25.853 ABD 0031 / BMS
<b>Qualification</b>	Airbus: Qualified Boeing: In progress

# *Lantal's polyamide standard carpets*

## *Key features*



### **Service lifetime**

Abrasion: Hexapod tests of the quality has revealed a service lifetime\* of:

- aisles approx. 11 – 14 months
- under seats approx. 18 – 26 months

Hardwearing: Hexapod test grade 4.5 out of 5

Brightening: No optical brightening in use

Soiling: The latest-generation of the polyamide yarn minimizes soil adhesion, nevertheless easier soiled than wool or wool/polyamide carpets. Regular cleaning is essential.

\*The specific service lifetime depends largely on the airline's interior philosophy (colors, quality), routing (long-haul, short-haul), geographical routes, load factors and cleaning attitudes.





# *Lantal's polyamide standard carpets*

## *Key features*



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### **Ecology**

The polyamide in Lantal's "polyamide standard" carpet is made of 100% Econyl®.

Econyl® is made from 100% regenerated resources including fishing nets, yarn discards and fabrics. The use of Econyl® greatly reduces the consumption of oil, water and energy during the production process of the fibers.

### **Dimensional stability**

Thanks to a completely new basic construction and coating Lantal's "Polyamide standard" carpets have a very good dimensional stability of  $\pm 0.5\%$  or better, which fulfills Airbus specification EN986 ( $\leq 1\%$ ) as well as the Boeing specification BSS 7310 ( $\pm 0.5\%$ ).

### **Specification**

Lantal carpets are permanently flame-resistant in accordance with FAR/CS 25.853, 12 sec. vertical, and meet the Airbus (ABD 0031) and Boeing (BMS 8-237) specifications for smoke and toxicity if cleaned according to Lantal cleaning recommendations. They also fulfill the Boeing requirements regarding electrostatic properties (BSS 7311).

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# *Carpet quality comparison*

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After having seen the key facts and figures of Lantal's carpet qualities, the next few slides will highlight their distinguishing factors and advantages.



# Carpet quality comparison

## 100%Wo - Wo/Pa 80/20 - 100% Pa

Criteria	Wool standard	Wool/Polyamide 80/20	Polyamide standard
Weight (g/m <sup>2</sup> ) (± 5%)	1'500 – 1'960 g/m <sup>2</sup>	1'450 – 1850 g/m <sup>2</sup>	1'350 – 1'450 g/m <sup>2</sup>
Design possibility	Various, no color limitations	Various, no color limitations	Various, 112 colors
Flammability, smoke, tox properties	Passed	Passed	Passed
Dimensional stability (%)	± 0.5	± 0.5	± 0.5
Installation	Self-adhesive carpet coating or double sided tape	Self-adhesive carpet coating or double sided tape	Self-adhesive carpet coating or double sided tape
Serging	Serging recommended	Serging recommended	Serging recommended
Airbus BFE Qualification Status	Qualified	Qualified 😊 (square loop & float loop)	Qualified
Boeing Qualification Status	Qualified	In progress	In progress
Cleaning	Spray extraction	Spray extraction	Spray extraction
Ecology	Made from farm wool	Made from farm wool and common PA fibers	Polyamide made from recycled resources
Recommended application	Short-, medium-, and long-haul All classes	All classes Short-, medium-, and long-haul	All classes Short-, medium-, and long-haul

# Carpet quality comparison

## 100%Wo - Wo/Pa 80/20 - 100% Pa

### Lifetime / performance overview

	Wool standard	WO/PA 80/20	Polyamide standard
Lifetime (Months)* Aisles	approx. 4 – 8	approx. 7 – 10	approx. 11 – 14
Under Seat	approx. 12 – 18	approx. 14 – 20	approx. 18 – 26
Abrasion (Hexapod)	3.0 – 3.5 out of 5	3.75 – 4.0 out of 5	4.5 out of 5
Prevention of brightening / Color fastness	++	+++	++++
Prevention on soiling	++++	+++	+
Dimensional stability	++++	++++	++++

+ = adequate

++ = good

+++ = very good

++++ = excellent

\* The specific service lifetime depends on several factors including abrasion, brightening as well as soiling. It is also largely dependent on the airline's interior philosophy (design, color, quality), routing (long-haul, short-haul), geographical routes, load factors and cleaning attitudes.



# *Carpet quality comparison*

*100%Wo - Wo/Pa 80/20 - 100% Pa*

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## **Durability / service lifetime\***

### **Abrasion**

Concerning abrasion results only, “Polyamide standard” carpets show the best results, closely followed by “Wool/Polyamide 80/20” carpets.

The wool fiber is proven for a nice optical look of the interior for a longer time, but in regard to abrasion only, wool carpets generally do not perform equally good as polyamide carpets.

### **Brightening**

In terms of brightening similar results as with the abrasion results can be observed. “Polyamide standard” carpets show no brightening in use. “Wool/Polyamide 80/20” carpets show slight brightening. Depending on the design/color, standard Wool carpets can show some brightening in use.

### **Soiling:**

Concerning soiling properties, the results are the opposite of abrasion.

The wool fiber has intrinsic properties to prevent soiling. The natural oils and the structure of the fiber absorb the dirt and make it less visible. This leads to much better soiling properties of wool carpets than 100% Polyamide carpets. Meaning that if minimal cleaning is a prerequisite, the best choice is a carpet with a high wool share.

# *Carpet quality comparison*

*100%Wo - Wo/Pa 80/20 - 100% Pa*

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## **Weight**

In general “Polyamide standard” carpets are the lightest carpets out of the four qualities. Wool/polyamide carpets are slightly heavier than “Polyamide standard” carpets and the “Wool standard” carpets are the heaviest of them.

The exact weight of a carpet varies depending on the design/construction.

## **Dimensional stability**




All of Lantal’s “Polyamide”, “Wool/Polyamide” and “Wool standard” carpets perform equally well with respect to dimensional stability.

Thanks to a completely new basic construction and coating Lantal’s carpets have very good dimensional stability of  $\pm 0.5\%$  or better, which fulfills the Airbus specification EN986 ( $\leq 1\%$ ) as well as the Boeing specification BSS 7310 ( $\pm 0.5\%$ ).

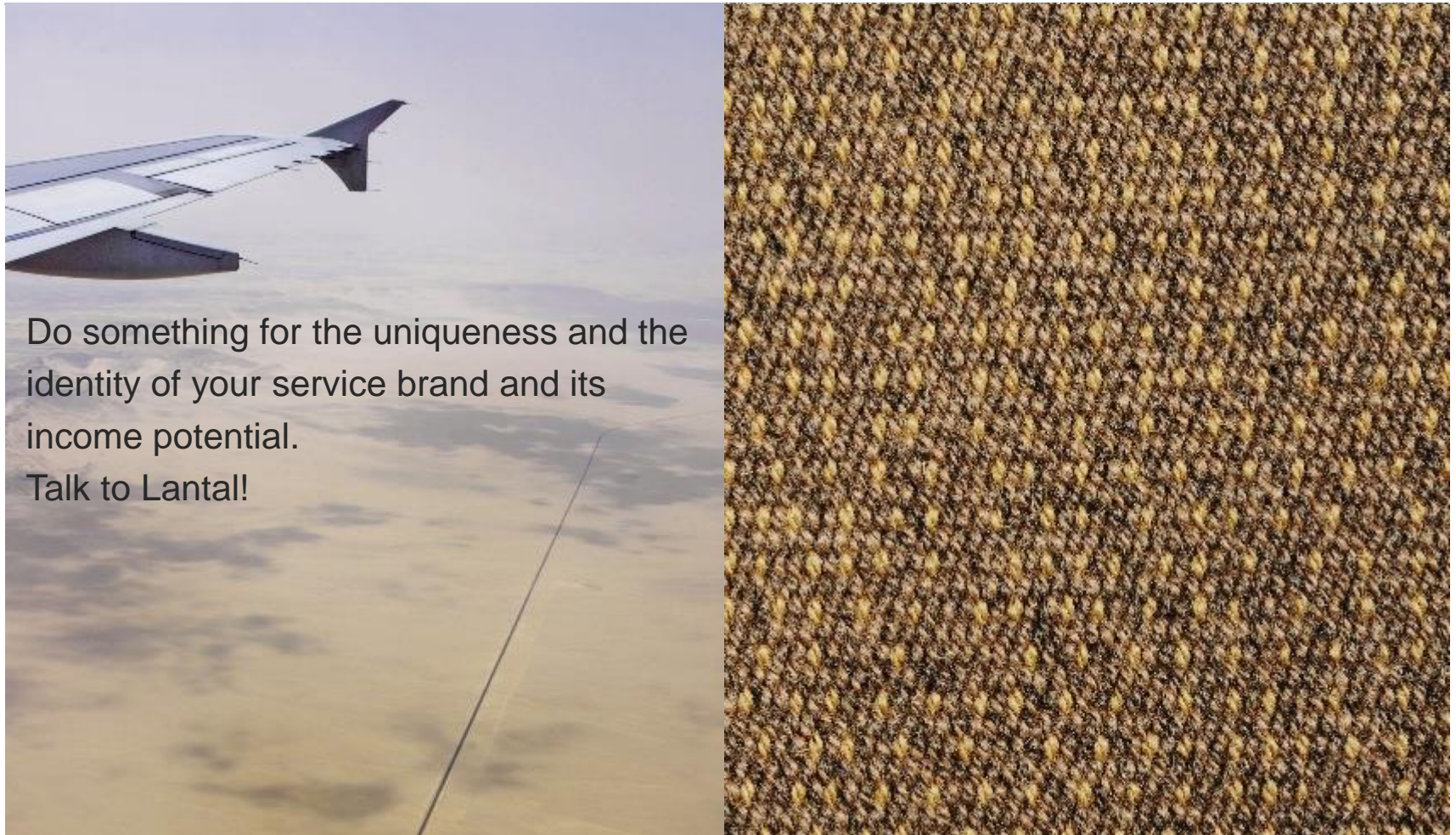
## **Reduced environmental impact**

The polyamide in Lantal’s “Polyamide standard” carpets is made of 100% Econyl® fibers. Econyl® is made from 100% recycled resources including fishing nets, yarn discards and fabrics.

The use of Econyl® greatly reduces the consumption of oil, water and energy during the production process of the fibers.

<u>Wool standard</u>	<u>Wool / Polyamide 80/20</u>	<u>Polyamide standard</u>
<ul style="list-style-type: none"> <li>• Rich, natural look</li> <li>• Great soiling properties</li> <li>• Great walking comfort</li> </ul>	<ul style="list-style-type: none"> <li>• Natural look</li> <li>• Very good abrasion</li> <li>• Long life</li> </ul>	<ul style="list-style-type: none"> <li>• Technical look</li> <li>• Excellent abrasion</li> <li>• Long life</li> </ul>
		
<p>Creates a rich, natural look in the interior.</p> <p>The wool fiber has intrinsic properties to prevent soiling which makes the dirt less visible.</p>	<p>Retains the natural look of a wool carpet, but also has excellent abrasion values and great wear resistance.</p> <p>Therefore has a long lifetime.</p>	<p>Creates a technical look in the interior.</p> <p>Excellent abrasion values and wear resistance and therefore has a long lifetime</p>

# *Lantal – The ultimate in well-being for passengers*



Do something for the uniqueness and the identity of your service brand and its income potential.  
Talk to Lantal!