

cult

# Déco N203 Denim 430

—  
COLLECTION 2018-2021  
FUSING STYLE AND INNOVATION  
GLASSFIBRE  
OF = 3-5%



**Make the latest  
trends in architecture  
and design a feature  
of your space.  
Meet Cult.**



# Déco N203



GLASSFIBRE

OF = 3%

## Technical specifications

TECHNICAL SPECIFICATION		UNITY		STANDARD	RESULT
composition				Glassfibre 36% - PVC 64%	
openness factor		%		NBN EN 410	3%
weight		g/m <sup>2</sup>		NF EN 12127	435,9
thickness		mm		ISO 2286-3	0,551
density		yarn/cm	warp	ISO 7211/2	22
			weft		20
colour fastness to artificial light				ISO 105 B02	>7
tear strength	original	daN	warp	ISO 4674-1 method 2	3,3
			weft		3,65
elongation up to break	original	%	warp	ISO 1421	8,8
			weft		2,8
breaking strength	original	daN/5 cm	warp	ISO 1421	125
			weft		175
elongation up to break	after colour fastness to artificial light	%	warp	ISO 1421	8,7
			weft		2,7
breaking strength	after colour fastness to artificial light	daN/5 cm	warp	ISO 1421	120
			weft		185
tear strength	after climatic chamber -30°C	daN	warp	ISO 4674-1 method 2	3
			weft		3,8
elongation up to break	after climatic chamber -30°C	%	warp	ISO 1421	8,6
			weft		1,8
breaking strength	after climatic chamber -30°C	daN/5 cm	warp	ISO 1421	120
			weft		140
tear strength	after climatic chamber +70°C	daN	warp	ISO 4674-1 method 2	3,1
			weft		3,6
elongation up to break	after climatic chamber +70°C	%	warp	ISO 1421	8,9
			weft		1,9
breaking strength	after climatic chamber +70°C	daN/5 cm	warp	ISO 1421	130
			weft		125
fire classification	Europe			UNE-EN 13501-1:2007	C-s3,d0
	France			NF P92-503	M1
	Italy			UNI 9177	Class 1
	Germany			DIN 4102	B1
	UK			BS 5867	C
	USA			NFPA 701	FR
	Spain			UNE EN 13773-2003	Clase 1
roll length	<b>30 m</b>				
cleaning	with soapy water				
confection	by heat, high frequency or ultrasonic welding				

These properties are given as indicative and don't have any contractual value

## Déco N203 008034 linen | plum blossom







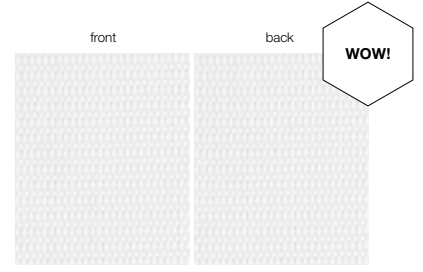
# Déco N203



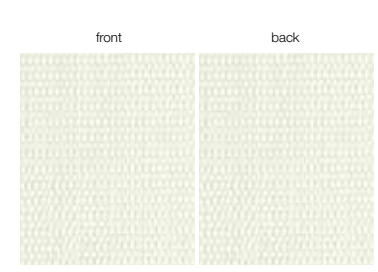
GLASSFIBRE

OF = 3%

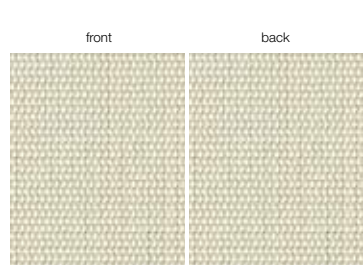
## Colours & references



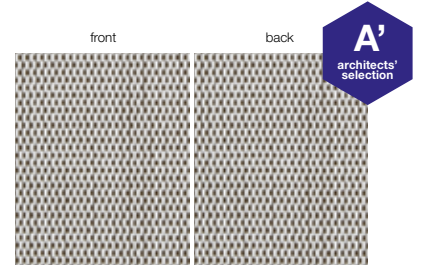
Déco N203 092092 WOW white



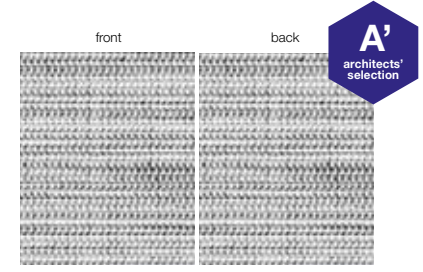
Déco N203 002002 white | white



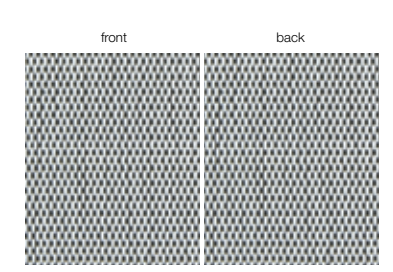
Déco N203 002008 white | linen



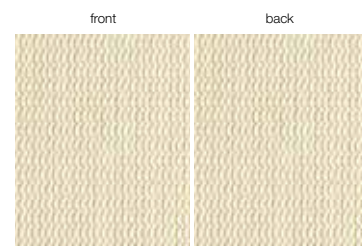
Déco N203 002035 white | melocake



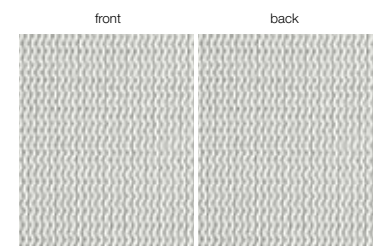
Déco N203 bicolor 002049 white | white-charcoal



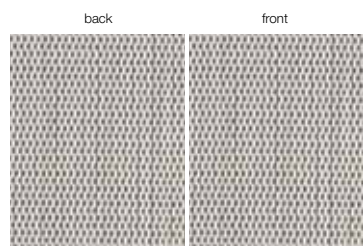
Déco N203 002010 white | charcoal



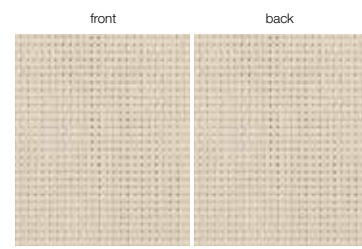
Déco N203 002003 white | sand



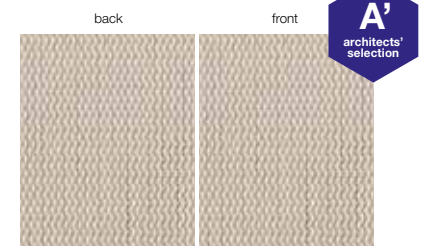
Déco N203 002007 white | pearl grey



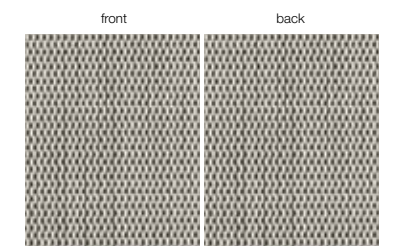
Déco N203 002001 white | grey



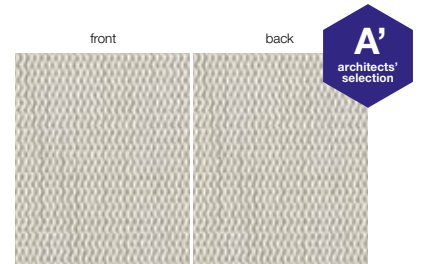
Déco N203 008008 linen | linen



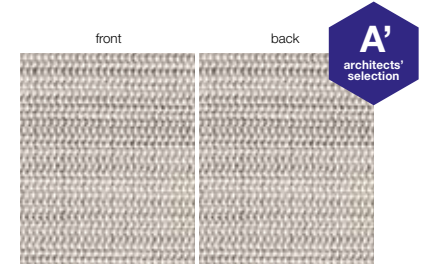
Déco N203 008034 linen | plum blossom



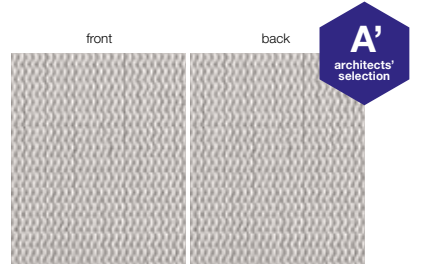
Déco N203 008010 linen | charcoal



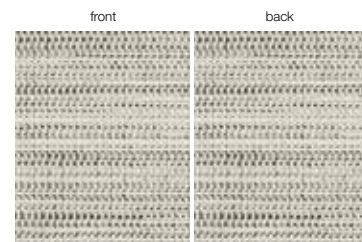
Déco N203 002032 white | wet sand



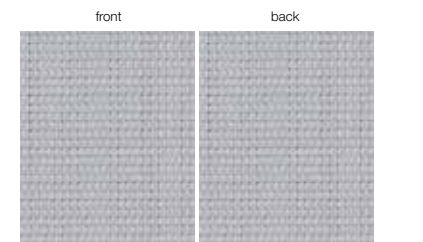
Déco N203 bicolor 002048 white | sand-bronze



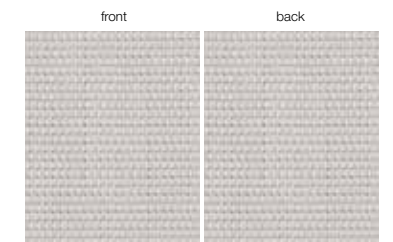
Déco N203 002034 white | plum blossom



Déco N203 bicolor 008049 linen | white-charcoal



Déco N203 007007 pearl grey | pearl grey



Déco N203 007008 pearl grey | linen

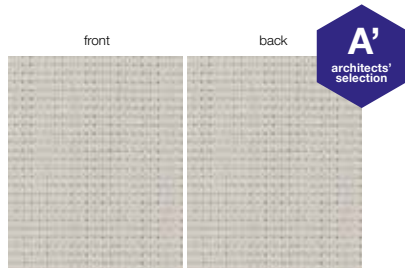
# Déco N203



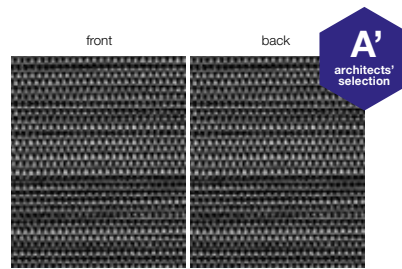
GLASSFIBRE

OF = 3%

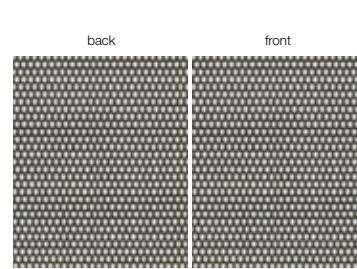
## Colours & references



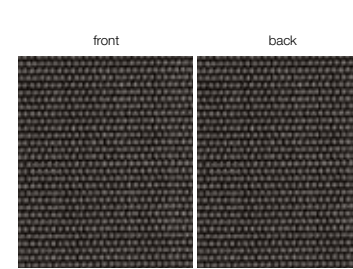
Déco N203 007003 pearl | grey sand



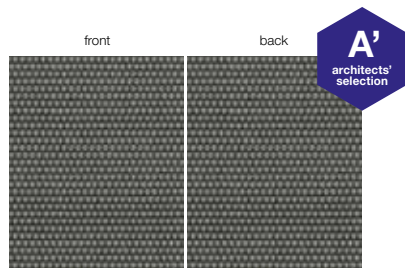
Déco N203 bicolor 010049 charcoal | white-charcoal



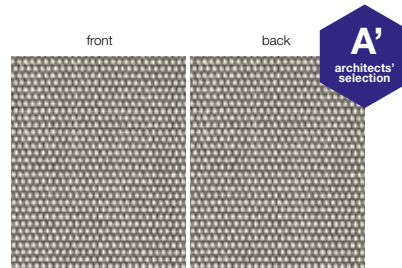
Déco N203 010008 charcoal | linen



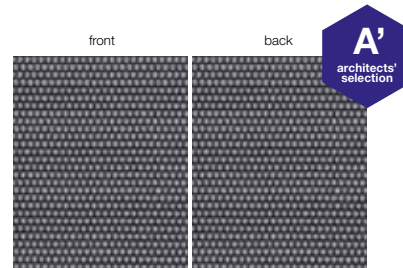
Déco N203 010001 charcoal | grey



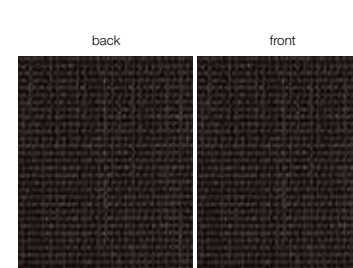
Déco N203 010031 charcoal | jade river



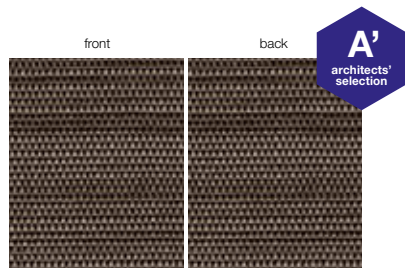
Déco N203 010024 charcoal | apricot



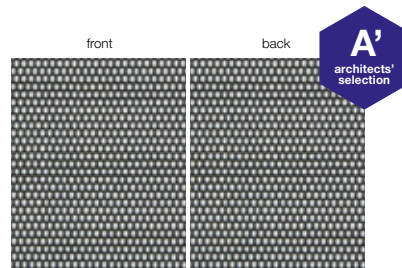
Déco N203 010034 charcoal | plum blossom



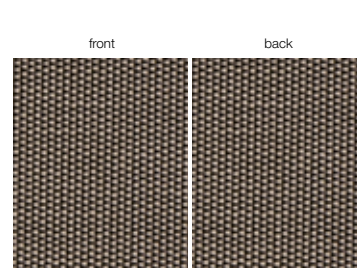
Déco N203 010011 charcoal | bronze



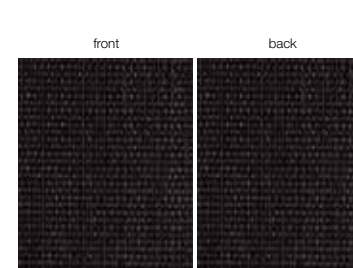
Déco N203 bicolor 010048 charcoal | sand-bronze



Déco N203 010023 charcoal | stone



Déco N203 010003 charcoal | sand



Déco N203 010010 charcoal | charcoal

Déco N203	250 cm	320 cm
092092 WOW white	•	
002002 white   white	•	•
002008 white   linen	•	•
002003 white   sand	•	•
002007 white   pearl grey	•	
002001 white   grey	•	
002032 white   wet sand	•	
002048 white   sand-bronze	•	
002034 white   plum blossom	•	
002035 white   melocake	•	
002049 white   white-charcoal	•	
002010 white   charcoal	•	
008008 linen   linen	•	
008034 linen   plum blossom	•	
008010 linen   charcoal	•	
008049 linen   white-charcoal	•	
007007 pearl grey   pearl grey	•	
007008 pearl grey   linen	•	
007003 pearl grey   sand	•	
010049 charcoal   white-charcoal	•	
010008 charcoal   linen	•	
010031 charcoal   jade river	•	
010024 charcoal   apricot	•	
010034 charcoal   plum blossom	•	
010048 charcoal   sand-bronze	•	
010023 charcoal   stone	•	
010003 charcoal   sand	•	
010001 charcoal   grey	•	
010011 charcoal   bronze	•	
010010 charcoal   charcoal	•	



# Déco N203



GLASSFIBRE

OF = 3%

## Solar energetic properties

Déco N203 European Standard EN 14501 Calculation G-value according to EN 13363-1, version 7.0			SOLAR ENERGETIC PROPERTIES										VISUAL PROPERTIES	
			FABRIC		FABRIC + GLAZING									
					INTERIOR									
					G-factor = total solar energy transmittance									
references	colours	front	back	As = Solar Absorptance %	Rs = Solar Reflectance %	Ts = Solar Transmittance %	Glazing A - Gv = 0,85 - U = 5,8	Glazing B - Gv = 0,76 - U = 2,9	Glazing C - Gv = 0,59 - U = 1,2	Glazing D - Gv = 0,32 - U = 1,1	Tv = Visible Light Transmittance %	Tuv = UV Transmittance %		
092092	WOW white	front		8,6	68,2	23,2	0,34	0,36	0,35	0,25	21,1	11,7		
		back		8,6	68,2	23,2	0,34	0,36	0,35	0,25	21,1	11,7		
002002	white   white	front		12,7	68,1	19,2	0,34	0,36	0,35	0,25	18,3	5,0		
		back		12,3	68,5	19,2	0,34	0,36	0,35	0,25	18,3	5,0		
002008	white   linen	front		21,3	62,5	16,2	0,37	0,38	0,37	0,25	13,8	5,3		
		back		21,2	62,6	16,2	0,37	0,38	0,37	0,25	13,8	5,3		
002003	white   sand	front		31,0	56,5	12,5	0,40	0,41	0,39	0,26	10,6	4,6		
		back		30,8	56,6	12,5	0,40	0,41	0,39	0,26	10,6	4,6		
002007	white   pearl grey	front		35,9	51,8	12,3	0,43	0,44	0,40	0,26	10,2	5,0		
		back		35,6	52,1	12,3	0,42	0,44	0,40	0,26	10,2	5,0		
002001	white   grey	front		48,2	43,5	8,4	0,47	0,48	0,43	0,27	7,8	3,7		
		back		48,0	43,6	8,4	0,47	0,48	0,43	0,27	7,8	3,7		
002032	white   wet sand	front		39,7	46,0	14,3	0,44	0,45	0,42	0,27	11,5	5,6		
		back		39,7	46,0	14,3	0,44	0,45	0,42	0,27	11,5	5,6		
002048	white   sand-bronze	front		41,3	45,9	12,8	0,46	0,47	0,42	0,27	10,6	5,6		
		back		41,3	45,9	12,8	0,46	0,47	0,42	0,27	10,6	5,6		
002034	white   plum blossom	front		40,7	45,8	13,5	0,43	0,45	0,42	0,27	11,0	5,5		
		back		40,7	45,8	13,5	0,43	0,45	0,42	0,27	11,0	5,5		

GLAZING A = clear single glazing 4 mm	Gv = 0,85
GLAZING B = clear double glazing (4/12/4), space filled with air	Gv = 0,76
GLAZING C = double glazing (4/16/4), with a low emissivity coating in position 3, space filled with argon	Gv = 0,59
GLAZING D = reflective double glazing (4/16/4), with a low emissivity coating in position 2, space filled with argon	Gv = 0,32

## Solar energetic properties

Déco N203 European Standard EN 14501 Calculation G-value according to EN 13363-1, version 7.0			SOLAR ENERGETIC PROPERTIES										VISUAL PROPERTIES	
			FABRIC		FABRIC + GLAZING									
					INTERIOR									
					G-factor = total solar energy transmittance									
references	colours	front	back	As = Solar Absorptance %	Rs = Solar Reflectance %	Ts = Solar Transmittance %	Glazing A - Gv = 0,85 - U = 5,8	Glazing B - Gv = 0,76 - U = 2,9	Glazing C - Gv = 0,59 - U = 1,2	Glazing D - Gv = 0,32 - U = 1,1	Tv = Visible Light Transmittance %	Tuv = UV Transmittance %		
002035	white   melocake	front		56,2	33,4	10,4	0,49	0,51	0,45	0,28	9,3	5,6		
		back		56,2	33,4	10,4	0,49	0,51	0,45	0,28	9,3	5,6		
002049	white   white-charcoal	front		36,9	48,7	14,4	0,45	0,45	0,41	0,27	13,2	5,6		
		back		36,9	48,7	14,4	0,45	0,45	0,41	0,27	13,2	5,6		
002010	white   charcoal	front		59,2	32,5	8,3	0,49	0,51	0,46	0,28	7,8	4,6		
		back		59,2	32,5	8,3	0,49	0,51	0,46	0,28	7,8	4,6		
008008	linen   linen	front		34,5	50,4	15,1	0,41	0,43	0,40	0,26	11,1	5,2		
		back		34,5	50,4	15,1	0,41	0,43	0,40	0,26	11,1	5,2		
008034	linen   plum blossom	front		48,1	40,3	11,6	0,46	0,48	0,43	0,27	8,8	5,5		
		back		48,1	40,3	11,6	0,46	0,48	0,43	0,27	8,8	5,5		
008010	linen   charcoal	front		64,4	28,3	7,3	0,51	0,53	0,47	0,28	6,5	4,5		
		back		64,4	28,3	7,3	0,51	0,53	0,47	0,28	6,5	4,5		
008049	linen   white-charcoal	front		49,9	39,2	10,9	0,46	0,48	0,44	0,27	9,2	5,7		
		back		49,9	39,2	10,9	0,46	0,48	0,44	0,27	9,2	5,7		
007007	pearl grey   pearl grey	front		61,3	32,2	6,5	0,49	0,51	0,46	0,28	4,8	3,8		
		back		61,3	32,2	6,5	0,49	0,51	0,46	0,28	4,8	3,8		
007008	pearl grey   linen	front		52,2	39,1	8,7	0,46	0,48	0,43	0,27	6,0	3,9		
		back		52,2	39,1	8,7	0,46	0,48	0,43	0,27	6,0	3,9		

# Déco N203



GLASSFIBRE

OF = 3%

## Solar energetic properties

Déco N203 European Standard EN 14501 Calculation G-value according to EN 13363-1, version 7.0			SOLAR ENERGETIC PROPERTIES										VISUAL PROPERTIES	
			FABRIC		FABRIC + GLAZING									
					INTERIOR									
					G-factor = total solar energy transmittance									
references	colours	front	back	As = Solar Absorbance %	Rs = Solar Reflectance %	Ts = Solar Transmittance %	Glazing A - Gv = 0,85 - U = 5,8	Glazing B - Gv = 0,76 - U = 2,9	Glazing C - Gv = 0,59 - U = 1,2	Glazing D - Gv = 0,32 - U = 1,1	Tv = Visible Light Transmittance %	Tuv = UV Transmittance %		
007003	pearl grey   sand	front	back	55,4	36,2	8,4	0,47	0,49	0,44	0,27	5,5	3,8		
		front	back	55,4	36,2	8,4	0,47	0,49	0,44	0,27	5,5	3,8		
010049	charcoal   white-charcoal	front	back	81,0	14,7	4,3	0,63	0,62	0,52	0,30	4,2	3,9		
		front	back	81,0	14,7	4,3	0,63	0,62	0,52	0,30	4,2	3,9		
010008	charcoal   linen	front	back	75,5	18,6	5,9	0,56	0,57	0,50	0,29	5,5	4,9		
		front	back	75,5	18,6	5,9	0,56	0,57	0,50	0,29	5,5	4,9		
010031	charcoal   jade river	front	back	84,4	9,5	6,1	0,61	0,62	0,53	0,29	5,9	5,8		
		front	back	84,4	9,5	6,1	0,61	0,62	0,53	0,29	5,9	5,8		
010024	charcoal   apricot	front	back	75,8	17,2	7,0	0,57	0,58	0,50	0,29	6,5	5,7		
		front	back	75,8	17,2	7,0	0,57	0,58	0,50	0,29	6,5	5,7		
010034	charcoal   plum blossom	front	back	80,8	12,8	6,4	0,59	0,60	0,52	0,29	6,1	5,9		
		front	back	80,8	12,8	6,4	0,59	0,60	0,52	0,29	6,1	5,9		
010048	charcoal   sand-bronze	front	back	83,3	13,2	3,5	0,64	0,63	0,53	0,30	3,3	3,3		
		front	back	83,3	13,2	3,5	0,64	0,63	0,53	0,30	3,3	3,3		
010023	charcoal   stone	front	back	74,6	19,2	6,2	0,56	0,57	0,50	0,29	6,0	4,9		
		front	back	74,6	19,2	6,2	0,56	0,57	0,50	0,29	6,0	4,9		

GLAZING A = clear single glazing 4 mm	Gv = 0,85
GLAZING B = clear double glazing (4/12/4), space filled with air	Gv = 0,76
GLAZING C = double glazing (4/16/4), with a low emissivity coating in position 3, space filled with argon	Gv = 0,59
GLAZING D = reflective double glazing (4/16/4), with a low emissivity coating in position 2, space filled with argon	Gv = 0,32

## Solar energetic properties

Déco N203 European Standard EN 14501 Calculation G-value according to EN 13363-1, version 7.0			SOLAR ENERGETIC PROPERTIES										VISUAL PROPERTIES	
			FABRIC		FABRIC + GLAZING									
					INTERIOR									
					G-factor = total solar energy transmittance									
references	colours	front	back	As = Solar Absorbance %	Rs = Solar Reflectance %	Ts = Solar Transmittance %	Glazing A - Gv = 0,85 - U = 5,8	Glazing B - Gv = 0,76 - U = 2,9	Glazing C - Gv = 0,59 - U = 1,2	Glazing D - Gv = 0,32 - U = 1,1	Tv = Visible Light Transmittance %	Tuv = UV Transmittance %		
010003	charcoal   sand	front	back	77,2	17,0	5,8	0,62	0,61	0,51	0,29	5,4	5,0		
		front	back	77,2	17,0	5,8	0,62	0,61	0,51	0,29	5,4	5,0		
010001	charcoal   grey	front	back	85,3	9,4	5,2	0,66	0,65	0,54	0,30	5,2	5,1		
		front	back	85,3	9,4	5,2	0,66	0,65	0,54	0,30	5,2	5,1		
010011	charcoal   bronze	front	back	87,1	6,5	6,4	0,68	0,66	0,55	0,30	6,3	6,3		
		front	back	87,1	6,5	6,4	0,68	0,66	0,55	0,30	6,3	6,3		
010010	charcoal   charcoal	front	back	88,8	5,7	5,5	0,69	0,67	0,55	0,30	5,5	5,5		
		front	back	88,8	5,7	5,5	0,69	0,67	0,55	0,30	5,5	5,5		

# Denim 430



GLASSFIBRE

OF = 5%

## Technical specifications

TECHNICAL SPECIFICATION		UNITY		STANDARD	RESULT
composition				Glassfibre 36% - PVC 64%	
openness factor		%		NBN EN 410	5%
weight		g/m <sup>2</sup>		NF EN 12127	430
thickness		mm		ISO 2286-3	0,59
density		yarn/cm	warp	ISO 7211/2	22
			weft		20
colour fastness to artificial light				ISO 105 B02	>7
tear strength	original	daN	warp	ISO 4674-1 method 2	3,3
			weft		3,65
elongation up to break	original	%	warp	ISO 1421	8,8
			weft		2,8
breaking strength	original	daN/5 cm	warp	ISO 1421	125
			weft		175
elongation up to break	after colour fastness to artificial light	%	warp	ISO 1421	8,7
			weft		2,7
breaking strength	after colour fastness to artificial light	daN/5 cm	warp	ISO 1421	120
			weft		185
tear strength	after climatic chamber -30°C	daN	warp	ISO 4674-1 method 2	3
			weft		3,8
elongation up to break	after climatic chamber -30°C	%	warp	ISO 1421	8,6
			weft		1,8
breaking strength	after climatic chamber -30°C	daN/5 cm	warp	ISO 1421	120
			weft		140
tear strength	after climatic chamber +70°C	daN	warp	ISO 4674-1 method 2	3,1
			weft		3,6
elongation up to break	after climatic chamber +70°C	%	warp	ISO 1421	8,9
			weft		1,9
breaking strength	after climatic chamber +70°C	daN/5 cm	warp	ISO 1421	130
			weft		125
fire classification	Europe			UNE-EN 13501-1:2007	awaiting test results
	France			NF P92-503	M1
	Italy			UNI 9177	awaiting test results
	Germany			DIN 4102	awaiting test results
	UK			BS 5867	awaiting test results
	USA			NFPA 701	awaiting test results
	Spain			UNE EN 13773-2003	Clase 1
roll length	<b>30 m</b>				
cleaning	with soapy water				
confection	by heat, high frequency or ultrasonic welding				

## Denim 430 002208 wide wave



These properties are given as indicative and don't have any contractual value





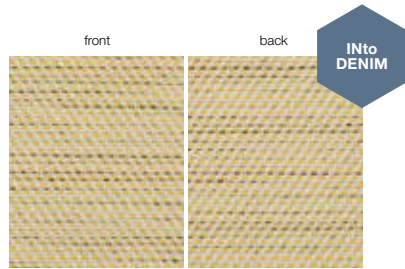
# Denim 430



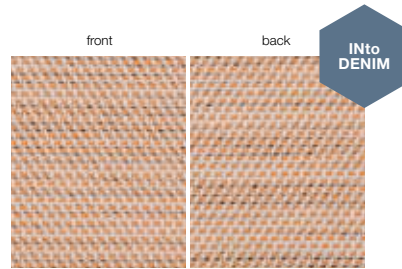
GLASSFIBRE

OF = 5%

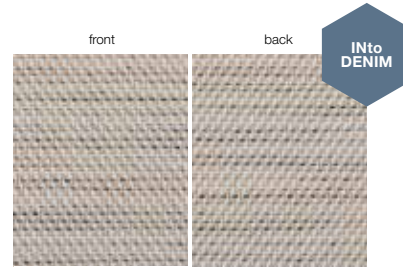
## Colours & references



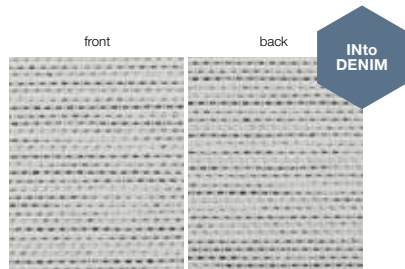
Denim 430 002201 casual corn



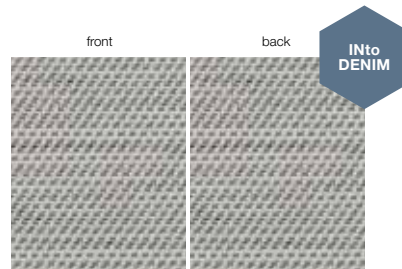
Denim 430 002203 coral rise



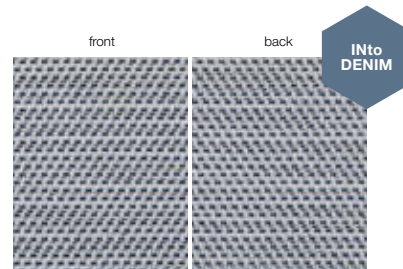
Denim 430 002206 skinny cream



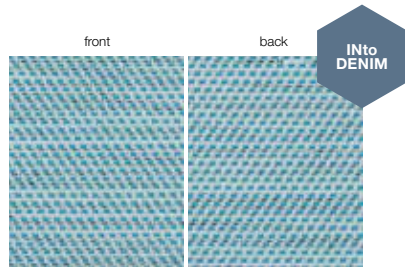
Denim 430 002209 slime slate



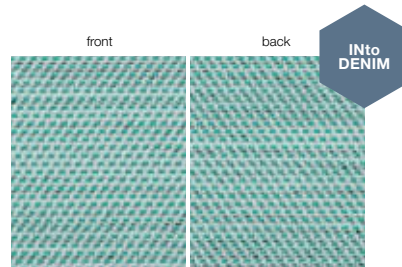
Denim 430 002207 straight grey



Denim 430 002208 wide wave



Denim 430 002204 aqua boot



Denim 430 002205 mineral fit

Denim 430	250 cm
002201 casual corn	•
002203 coral rise	•
002206 skinny cream	•
002209 slime slate	•
002207 straight grey	•
002208 wide wave	•
002204 aqua boot	•
002205 mineral fit	•

## Solar energetic properties

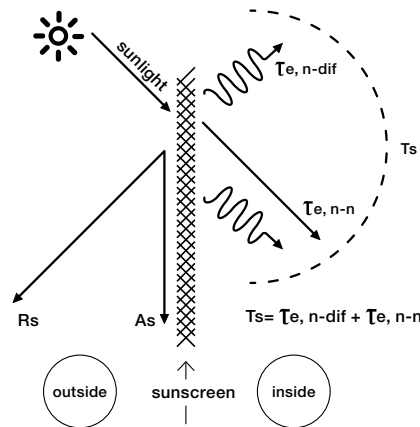
Denim 430 European Standard EN 14501 Calculation G-value according to EN 13363-1, version 7.0		SOLAR ENERGETIC PROPERTIES								VISUAL PROPERTIES		
		FABRIC			FABRIC + GLAZING				Tv = Visible Light Transmittance %			Tuv = UV Transmittance %
					INTERIOR							
references		As = Solar Absorbance %	Rs = Solar Reflectance %	Ts = Solar Transmittance %	G-factor = total solar energy transmittance				Tv = Visible Light Transmittance %	Tuv = UV Transmittance %		
colours					Glazing A - Gv = 0,85 - U = 5,8	Glazing B - Gv = 0,76 - U = 2,9	Glazing C - Gv = 0,59 - U = 1,2	Glazing D - Gv = 0,32 - U = 1,1				
002201	casual corn	front	28,5	53,0	18,5	0,43	0,43	0,40	0,26	17,0	6,4	
		back	29,6	51,9	18,5	0,43	0,43	0,40	0,26	17,0	6,4	
002203	coral rise	front	28,9	52,1	19,0	0,43	0,44	0,40	0,26	15,3	6,7	
		back	29,9	51,1	19,0	0,43	0,44	0,40	0,26	15,3	6,7	
002206	skinny cream	front	36,3	47,3	16,4	0,46	0,46	0,42	0,27	14,5	6,9	
		back	35,1	48,5	16,4	0,46	0,46	0,42	0,27	14,5	6,9	
002209	slime slate	front	27,6	54,6	17,8	0,42	0,43	0,39	0,26	17,3	6,4	
		back	27,2	55,0	17,8	0,42	0,43	0,39	0,26	17,3	6,4	
002207	straight grey	front	44,2	42,4	13,4	0,48	0,49	0,43	0,27	12,7	6,1	
		back	45,1	41,5	13,4	0,48	0,49	0,43	0,27	12,7	6,1	
002208	wide wave	front	46,5	39,3	14,2	0,50	0,50	0,44	0,27	13,1	7,1	
		back	47,3	38,5	14,2	0,50	0,50	0,44	0,27	13,1	7,1	
002204	aqua boot	front	32,2	50,3	17,5	0,44	0,45	0,41	0,26	13,7	6,5	
		back	33,0	49,5	17,5	0,44	0,45	0,41	0,26	13,7	6,5	
002205	mineral fit	front	35,2	47,4	17,4	0,46	0,46	0,42	0,27	14,5	6,5	
		back	35,2	47,4	17,4	0,46	0,46	0,42	0,27	14,5	6,5	

# Working of a sunscreen



## Sunscreen = protection against sunrays

Sunscreen means protection against the sunrays, so the function is the protection against light and heat, which is expressed in several properties.



<b>Rs</b>	Solar reflectance
<b>As</b>	Solar absorptance
<b>Ts</b>	Solar transmittance
<b>Te,n-dif</b>	Diffuse solar transmittance
<b>Te,n-n</b>	Normal solar transmittance

## Classes indicate effect of a sunscreen

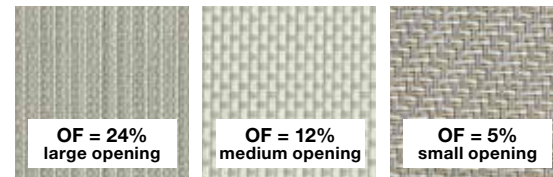
Based on certain properties, the screen can be split up in classes, from 0 to 4. Those classes are used, starting from the norm EN 14501, to indicate the effect of a certain sunscreen.

influence on thermal and visual comfort	
<b>Class 0</b>	very little effect
<b>Class 1</b>	little effect
<b>Class 2</b>	moderate effect
<b>Class 3</b>	good effect
<b>Class 4</b>	very good effect

## Visual properties

### Openness factor

The openness of a screen is indicated by the openness factor = **OF**. The openness coefficient is the relative area of the openings in the fabric seen under a given incidence. The openness factor is seen under a normal incidence.



The sunrays are subdivided in: **Visible light**, **UV-light** and **IR-light**.

**Visible light** (55% of the sun-energy) is that part for which our eyes are most sensitive. How larger the light intensity, how more detrimental for our eyes.

The factor Visible Light Transmittance = **Tv**, is the ratio of visible light that will be transmitted. How lower this factor can be kept, how better for the eyes.

**UV-light** (3% of the sun-energy) is the part of radiation which is detrimental for our health. This factor is indicated by the UV Transmittance = **Tuv**. This is the quantity UV-light transmitted by the sunscreen.

**IR-light** is invisible. This is however 42% of the sun-energy. These rays care for the reheating of solid substances and gases.

### Influence of colours

The choice of the colour has direct influence on the criteria which justify the use of sunscreen protection:

- Protection against visible light, expressed by the factor **Tv**.
- Protection against sun-energy, expressed by the **G** value.
- Protection against secondary heat, expressed by the factor **Qi**.
- Protection against UV-light, expressed by the factor **Tuv**.

## Visual properties: classes

### Glare control

The capacity of the solar protection device to control the luminance level of openings and to reduce the luminance contrasts between different zones within the field.

Tv,n-n	Tv,n-dif			
	Tv,n-dif < 0,02	0,02 ≤ Tv,n-dif < 0,04	0,04 ≤ Tv,n-dif < 0,08	Tv,n-dif ≥ 0,08
Tv,n-n > 0,10	0	0	0	0
0,05 < Tv,n-n ≤ 0,10	1	1	0	0
Tv,n-n ≤ 0,05	3	2	1	1
Tv,n-n = 0,00	4	3	2	2

### Privacy at night

Night privacy is the capacity of an internal or external blind or a shutter in the fully extended position or fully extended and closed position to protect persons, at night in normal light conditions from external view. External views means the ability of an external observer located 5m from the fully extended and closed product, to distinguish a person or object standing 1m behind the protection device in the room.

Tv,n-n	Tv,n-dif		
	0 < Tv,n-dif ≤ 0,04	0,04 < Tv,n-dif ≤ 0,15	Tv,n-dif > 0,15
Tv,n-n > 0,10	0	0	0
0,05 < Tv,n-n ≤ 0,10	1	1	1
Tv,n-n ≤ 0,05	2	2	2
Tv,n-n = 0,00	4	3	2

### Visual contact with the outside

Visual contact with the outside is the capacity of the solar protection device to allow an exterior view when it is fully extended. This function is affected by different light conditions during the day.

Tv,n-n	Tv,n-dif		
	0 < Tv,n-dif ≤ 0,04	0,04 < Tv,n-dif ≤ 0,15	Tv,n-dif > 0,15
Tv,n-n > 0,10	4	3	2
0,05 < Tv,n-n ≤ 0,10	3	2	1
Tv,n-n ≤ 0,05	2	1	0
Tv,n-n = 0,00	0	0	0

### Daylight utilisation

Daylight utilisation is characterised by:

- the capacity of the solar protection device to reduce the time period during the artificial light is required.
- the capacity of the solar protection device to optimise the daylight which is available.

CLASS	0	1	2	3	4
Tv,dif-h	Tv,dif-h < 0,02	0,02 ≤ Tv,dif-h < 0,10	0,10 ≤ Tv,dif-h < 0,25	0,25 ≤ Tv,dif-h < 0,40	Tv,dif-h ≥ 0,40




# Working of a sunscreen



## Thermal comfort

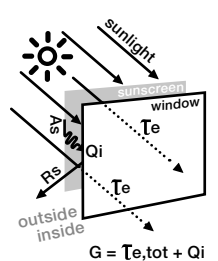
### Fabric

Energy radiated by the sun, will be split up in 3 factors:

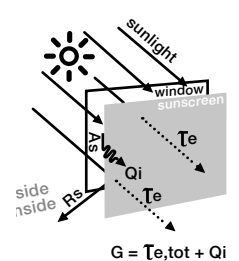
factor 1:	factor 2:	factor 3:
 <p><b>As = Solar absorptance</b> is the ratio of the absorbed flux to the incident flux.</p>	 <p><b>Rs = Solar reflectance</b> is the fraction of the incident solar radiation that is directly reflected by the component.</p>	 <p><b>Ts = Solar transmittance</b> is the sum of the (normal) direct solar transmittance and the diffuse solar transmittance. This is the fraction of the total transmitted energy to the total incident solar radiation.</p>
<b>These 3 factors together are always 100%</b>		

### The G-factor

#### exterior sunscreen



#### interior sunscreen



<b>Rs</b>	Solar reflectance
<b>As</b>	Solar absorptance
<b>Te</b>	Direct solar transmittance
<b>Qi</b>	Secondary heat transfer factor
<b>G</b>	G-factor = total solar energy transmittance

Sunscreens are always used in combination with a glazing. These together will prevent a large quantity of energy, sent by the sun to the earth, which is indicated by the: Total Solar Energy Transmittance, or **G-factor**.

The **G** value is the ratio between the total solar energy transmitted into a room through a window and the incident solar energy on the window. The **G<sub>tot</sub>** is the solar factor of the combination of glazing and solar protection device.

The **G<sub>v</sub>** is the solar factor of the glazing alone.

The shading coefficient is defined as the ratio of the solar factor of the combined glazing and solar protection device **G<sub>tot</sub>** to that of the glazing alone **G<sub>v</sub>**.

The total solar energy transmitted through a window consists of two parts:

- 1) Radiation: measured by the solar transmittance: **Te,tot**
- 2) Heat: measured by the secondary heat transfer: **Qi**

$$G = \overline{Te,tot} + Qi$$

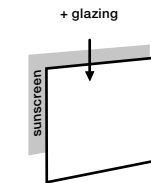
The factor **Te,tot**, is the quantity of energy, which will pass the combination solar protection device and window.

The factor **Qi** is the quantity of heat which is released by the absorption of energy in the sunscreen protection system = combination sunscreen + glazing.

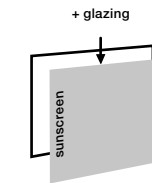
The **G-factor** is the most important factor to explain the efficiency of a combination sunscreen + glazing, as protection against the energy of the sun. The **G-factor** divided into his components explains the difference in efficiency between exterior and interior sunscreen.

$$G = \overline{Te,tot} + Qi$$

#### exterior sunscreen



#### interior sunscreen



The direct solar transmittance **Te,tot** is the same for interior and exterior use of sunscreens.

The secondary heat factor **Qi** for interior sunscreen is bigger than for exterior sunscreen. For interior use, the heat, produced by the absorption of energy, will be transmitted to the room inside. By exterior use, the heat will be transmitted to the outside, without any inconvenience at the inside.

Also the colour of the sunscreen has an influence on the **G-factor**. Dark colours will absorb a lot of sun energy and will transmit this to heat. If the screen is used for exterior, heat will have no influence inside the room, contrary to a screen used for interior. This is why a darker screen is ideal for exterior use and a lighter screen for interior use.

## Thermal comfort: classes

### Total Solar energy Transmittance = G-factor

CLASS	0	1	2	3	4
G <sub>tot</sub>	G <sub>tot</sub> ≥ 0,50	0,35 ≤ G <sub>tot</sub> < 0,50	0,15 ≤ G <sub>tot</sub> < 0,35	0,10 ≤ G <sub>tot</sub> < 0,15	G <sub>tot</sub> < 0,10

### Secondary Heat transfer = Qi

CLASS	0	1	2	3	4
Qi	Qi ≥ 0,30	0,20 ≤ Qi < 0,30	0,10 ≤ Qi < 0,20	0,03 ≤ Qi < 0,10	Qi < 0,03

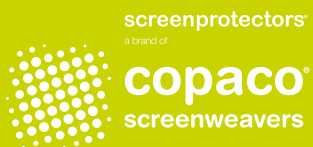
### Normal Solar transmittance = protection against direct transmission

The ability of a solar protection device to protect persons and surroundings from direct irradiation is measured by the direct/direct solar transmittance of the device in combination with the glazing. **Te,n-n** is used as measure for this property.



# fusing style and innovation





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