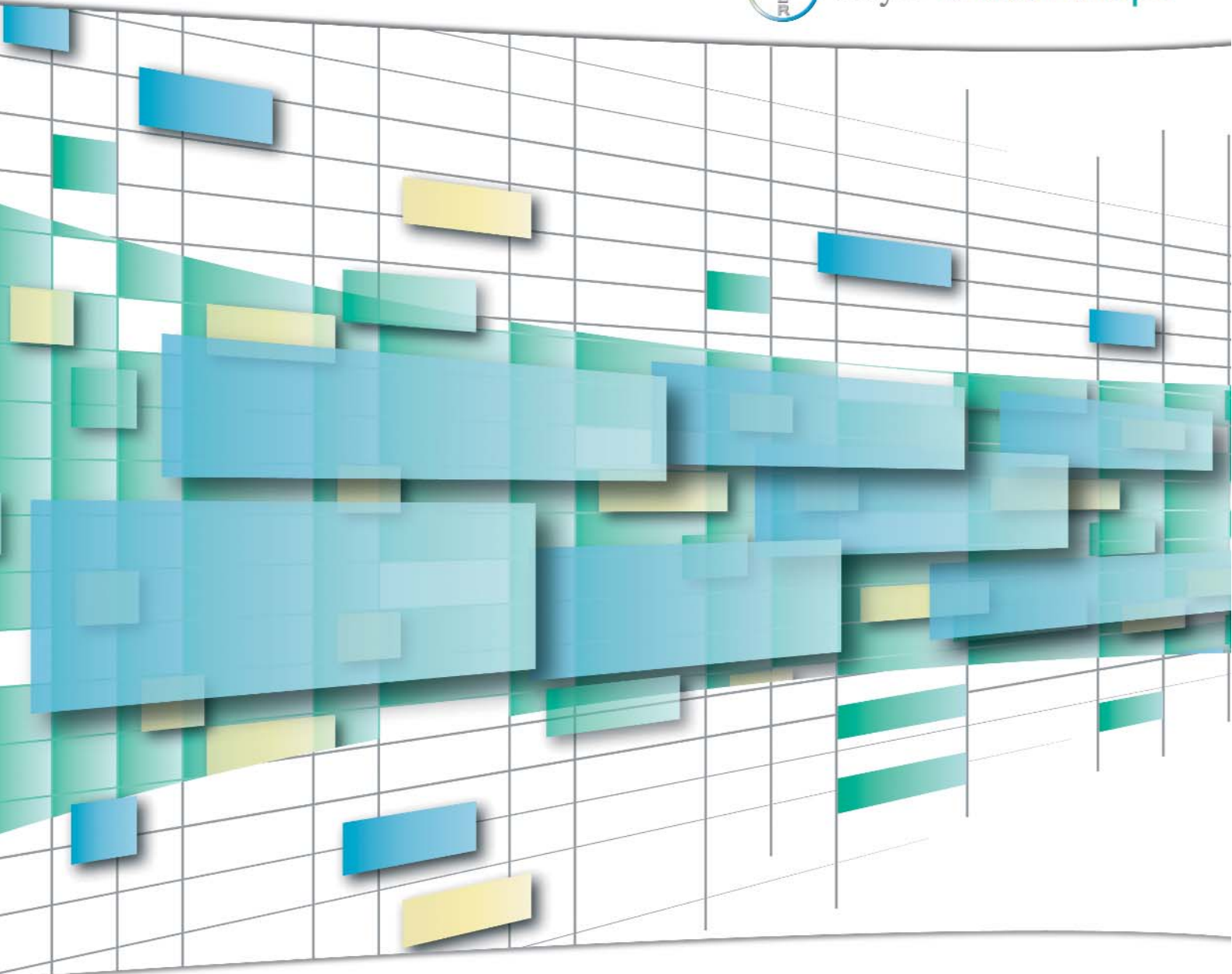




Bayer Sheet Europe



Sales Handbook
April 2011



DEFINITIONS

Standard

Production runs planned at regular intervals

Semi-Standard

Production runs depending on market requirements

On request

No planned production runs, minimum order quantity required. The minimum quantity for multi wall sheets is 3 tons. The minimum order quantity for double-sided UV multi wall sheets is 10 tons.

Please ask for the particular minimum order quantity as far as solid sheets are concerned.



makrolon®

Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG



CHANGES IN DELIVERY PROGRAM SOLID SHEETS

For some products, the status (standard, semi-standard, on request) has changed. Please see details on the following pages.



CHANGES IN DELIVERY PROGRAM MAKROLON® MULTI UV

Following products are added to the product range:

Makrolon® Ambient S2S-25

Makrolon® multi UV 4/6-6

The minimum order quantity for double-sided UV multi wall sheets is 10 tons.

For some products, the status (standard, semi-standard, on request) has changed. Please see details on the following pages.



Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG



makrolon®



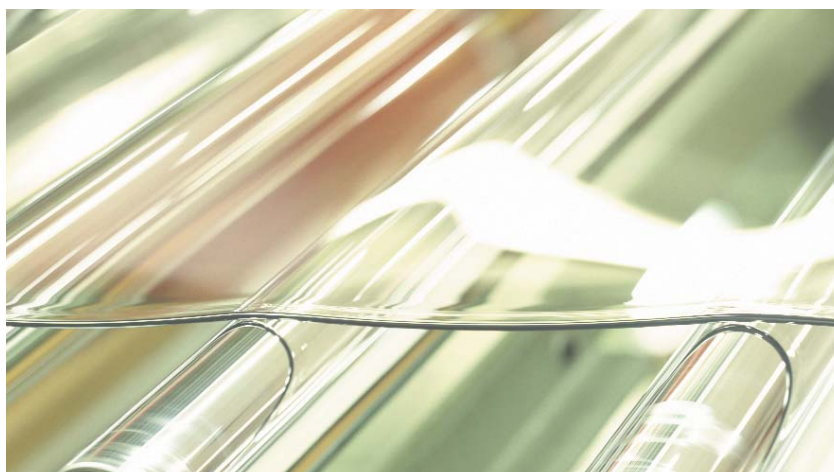
EXAMPLE: MAKROLON® UV BRONZE 2850

Makrolon®	UV	bronze	2850
Brandname	Properties	Colour group	Definition (4 digits)
Makrolon® Vivak® Axpert®	GP: general purpose UV: UV-protected NR: non-reflective AR: abrasion resistant FR: flame-retardant FG: food grade	clear white bronze grey green blue umbra	<p><u>1st digit: properties</u> - no special properties 2 = 2 sides UV-protected 7 = 1 side abrasion resistant 8 = 2 sides abrasion resistant</p> <p><u>2nd digit: colour</u> 0 clear 1 white 2 orange 3 red 4 violet 5 blue 6 green 7 grey 8 brown / bronze 9 black</p> <p><u>3rd & 4th digit: approximate light transmission at 3 mm*</u> <i>Example: 2850</i> <i>2 sides UV-protected, bronze, LT 50% at 3 mm</i></p>

* only valid for standard products

STRUCTURE (OPTIONAL)

- R: raindrop
- H: haircell
- P: pearl
- X: prism
- G: fine ripples
- C: chairmat



makrolon®

Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG

EXAMPLE: MAKROLON MULTI UV® 3X/16-25 WHITE 1146

Makrolon®	3X/ 16-25	white	1146
Brandname	Geometry	Colour	Definition (4 digits)
Makrolon® multi UV	<u>1st digit: layers</u> 2: twinwall 3: triplewall 4: 4-wall 5: 5-wall 6: 6-wall <u>Optional: structure</u> X: X-structure M: M-structure <u>2nd digit: thickness</u> e.g. 16: 16 mm thick <u>3rd digit: rib distance</u> e. g. 25: 25 mm	clear white bronze green blue	<u>1st digit: properties</u> 1 = 1 side UV-protected 2 = 2 sides UV-protected 4 = 1 side UV, 1 side no drop <u>2nd digit: colour</u> 0 clear 1 white 2 orange 3 red 4 violet 5 blue 6 green 7 grey 8 brown/ bronze 9 black <u>3rd & 4th digit</u> approximate light transmission example: 1146 1 side UV-protected, white, LT ~45%

ADDITIONAL PROPERTIES (OPTIONAL)

IQ-Relax: heat reflecting opal multiwall sheet
 no drop: no drop coating on 1 side
 CC: Climate Control, transparent and heat reflecting



Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG


makrolon®



MAKROLON® GP

Makrolon® GP is a mono-layer polycarbonate sheet, with good transparency, extreme impact resistance, high temperature resistance and good fire behaviour.

DESCRIPTION

Makrolon® GP

Density:	1,20 g/cm ³		
Light transmission : (at 3 mm)	clear	099 :	88%
	white	130 :	30%
	white	150 :	50%
	umbra	775 :	75%
Special grades:	NR :	non-reflective	
	FR :	flame-retardant	
	FG :	food grade	



STANDARD & SEMI-STANDARD RANGE*

Product	Size	Unit	0,75	1	1,5	2	3	4	5	6	8	10	12	15
Makrolon GP clear 099	2 050 x 1 250 mm	bulk	400	300	200	150	100	75	60	50	40	30	25	°
		carton	50	40	30	20	15	10	8	6	5	4	3	°
	3 050 x 2 050 mm	bulk		°	°	60	40	30	24	20	15	12	10	8
		carton		40	30	20	15	10	8	6	5	4	3	3
Makrolon GP white 130	3 050 x 2 050 mm	bulk		°	°	60	40	°	°	°	°	°	°	°
		carton		°	°	20	15	10	°	°	°	°	°	°
Makrolon GP white 150	3 050 x 2 050 mm	bulk		°	°	60	40	°	°	°	°	°	°	°
		carton		°	°	°	°	°	°	°	°	°	°	°
Makrolon GP umbra 775	3 050 x 2 050 mm	carton		°	°	°	°	°	°	°	°	°	°	°
Makrolon FR clear 099	3 050 x 2 050 mm	carton				20	15	°	8	°				

ON REQUEST RANGE

Product	Available widths	Available thicknesses
Makrolon FG clear 099	1250, 2050 mm	1-12 mm
Makrolon NR clear 099	1250 mm	0.75 - 5 mm
Makrolon NR clear 099	2050 mm	1 - 5 mm

*LEGEND

30	Standard
30	Semi-Standard
°	on request



makrolon®

Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG

MAKROLON® UV

Makrolon® UV is a mono-layer polycarbonate sheet, with improved UV-protection on both sides. On top of that, it offers good transparency, extreme impact resistance, high temperature resistance and good fire behaviour.

DESCRIPTION

Makrolon® UV

Density:	1,20 g/cm ³
Light transmission :	clear 2099 : 87%
(at 3 mm)	white 2130: 30%
	white 2150 : 50%
	bronze 2850 : 50%
	grey 2760 : 62%
	green 2650 : 77%
	blue 2550 : 61%



STANDARD & SEMI-STANDARD RANGE*

Product	Size	Unit	2	3	4	5	6	8	10	12	15
Makrolon UV clear 2099	2 050 x 1 250 mm	carton	20	15	10	8	6	°	°	°	°
	3 050 x 2 050 mm	bulk	60	40	30	24	20	15	12	10	8
	6110 x 2050 mm	carton	20	15	10	8	6	5	4	3	3
Makrolon UV white 2130	3 050 x 2 050 mm	bulk	30	20	15	12	10	°	°	°	°
		carton	°	°	°	°	°	°	°	°	°
Makrolon UV white 2150	3 050 x 2 050 mm	bulk	°	40	30	24	°	°	°	°	°
		carton	°	15	10	8	°	°	°	°	°
	6110 x 2050	bulk	°	20	15	°	°	°	°	°	°
Makrolon UV bronze 2850	3 050 x 2 050 mm	bulk	°	40	30	24	20	15	°	°	°
		carton	°	15	10	8	6	5	°	°	°
	6110 x 2050	bulk	°	20	15	12	°	°	°	°	°
Makrolon UV grey 2760	3 050 x 2 050 mm	bulk	°	40	30	24	20	°	°	°	°
		carton	°	°	°	°	°	°	°	°	°

ON REQUEST RANGE

Product	Available widths	Available thicknesses
Makrolon UV blue 2550	1250, 2050 mm	2 - 12 mm
Makrolon UV green 2650	1250, 2050 mm	2 - 12 mm

*LEGEND

30	Standard
30	Semi-Standard
°	on request

Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG



makrolon®



MAKROLON® AR

Makrolon® AR is a mono-layer polycarbonate sheet with improved scratch resistance on both sides. On top of that, it offers improved chemical resistance and weathering resistance, next to good transparency, extreme impact resistance, high temperature resistance and good fire behaviour.

DESCRIPTION

Makrolon® AR

Density: 1,20 g/cm³
Light transmission : clear 8099 : 88%
(at 3 mm) bronze 8850 : 50%

STANDARD & SEMI-STANDARD RANGE*

Product	Size	Unit	1,5	2	3	4	5	6	8	10	12	15
Makrolon AR clear 8099	3 000 x 2 000 mm	carton	°	°	15	10	8	6	5	4	3	°

ON REQUEST RANGE

Product	Available widths	Available thicknesses
Makrolon AR bronze 8850	2 000 mm	1,5 -15 mm
Makrolon AR clear 7099	2 000 mm	1,5 -15 mm

*LEGEND

30	Standard
30	Semi-Standard
°	on request

**makrolon®**

Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG

MAKROLON® UV PATTERNED

Makrolon® UV patterned sheet is a mono-layer polycarbonate sheet, with improved UV-protection on both sides and a special pattern on the surface(s). On top of that, it offers good translucency, extreme impact resistance, high temperature resistance and good fire behaviour.

DESCRIPTION

Makrolon® UV patterned

Density:	1,20 g/cm ³
Light transmission : (at 3 mm)	clear 2099 : 86% bronze 2850 : 50% blue 2550 : 61% green 2650 : 77%
Patterns:	RH : raindrop/haircell P : pearl/smooth GX : prism/fine ripples

STANDARD & SEMI-STANDARD RANGE*

Product	Size	Unit	3	4	5	6
Makrolon UV clear 2099 RH	3 050 x 2 050 mm	carton	15	10	8	6
Makrolon UV clear 2099 P	3 050 x 1 650 mm	small bulk	°	°	12	°
Makrolon UV clear 2099 GX	3 050 x 1 650 mm	small bulk	20	°	°	

ON REQUEST RANGE

Product	Available widths	Available thicknesses
Makrolon UV bronze 2850 RH	2 050 mm	3 - 6 mm
Makrolon UV blue 2550 RH	2 050 mm	3 - 6 mm
Makrolon UV green 2650 RH	2 050 mm	3 - 6 mm

*LEGEND

30	Standard
30	Semi-Standard
°	on request



RH pattern



P pattern



GX pattern

Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG



makrolon®



MAKROLON® UV CLIMATE CONTROL

Makrolon® UV ClimateControl are transparent polycarbonate sheets with a protective UV-coating on both sides. The sheets substantially reduce high temperatures caused by sunlight as they block out the majority of infrared light.

DESCRIPTION

Makrolon® UV CC

Thickness:		1,20 g/cm ³
Light transmission : (at 3 mm)	blue	2555 : 55%
	green	2655 : 55%
	bronze	2855 : 55%
	grey	2755 : 55%

ON REQUEST RANGE

Product	Available widths	Available thicknesses
Makrolon UV CC blue 2555	1 250 mm, 2050 mm	2 -12 mm
Makrolon UV CC green 2655	1 250 mm, 2050 mm	2 -12 mm
Makrolon UV CC bronze 2855	1 250 mm, 2050 mm	2 -12 mm
Makrolon UV CC grey 2755	1 250 mm, 2050 mm	2 -12 mm

**makrolon®**

Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG

MAKROLON® HYGARD

Makrolon Hygard® sheets consist of multiple layers of polycarbonate or polycarbonate/acrylic with bonding interlayers. These tough yet lightweight materials offer proven resistance to physical and ballistic attack.

Makrolon Hygard® is offered in 5 levels of protection. All sheets feature a hard coated surface for exceptional resistance to abrasion and UV-degradation.

DESCRIPTION CONTAINMENT GLAZING

Makrolon Hygard® CG 375 clear 8099

Thickness: 10,0 mm
 Weight: 12,0 kg/m²
 Type: PC/PC

Makrolon Hygard® CG 500 clear 8099

Thickness: 13,5 mm
 Weight: 16,2 kg/m²
 Type: PC/ PC/ PC

DESCRIPTION BULLET RESISTANT GLAZING

Makrolon Hygard® BR 750 clear 8099

Thickness: 20,0 mm
 Weight: 24,0 kg/m²
 Type: PC/ PMMA/ PC

Makrolon Hygard® MS 1250 clear 8099

Thickness: 33,0 mm
 Weight: 39,6 kg/m²
 Type: PC/ PC/ PMMA/ PC

SEMI-STANDARD PROGRAMM

Product	Available widths	Available thicknesses
Makrolon Hygard® CG 375 clear	1520 x 2440 mm	10,0 mm
CG 500 clear	1520 x 2440 mm	13,5 mm
BR 750 clear	1520 x 2440 mm	20,0 mm
MS 1250 clear	1520 x 2440 mm	33,0 mm

Packaging unit :
 available per single sheet.
 Other sizes on request.



Product liability clause: This information and our technical advise - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG. Hygard® is a registered trademark of Bayer AG.



makrolon®



RPC BLACK

RPC black is a mono-layer polycarbonate sheet, made from 100% recycled polycarbonate resin. It offers extreme impact resistance, high temperature resistance and good fire behaviour.

DESCRIPTION

RPC black 900

Density: 1,20 g/cm³
Colour: black 900 <1% (opak)
Patterns: G: fine ripples / smooth

ON REQUEST RANGE

Product	Available widths	Available thicknesses
RPC black 900	max. 1250 mm	1 - 12 mm
RPC black 900 G	max. 1650 mm	2 - 6 mm

**makrolon®**

Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG



Product liability clause: This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Makrolon® is a registered trademark of Bayer AG



makrolon®