



**Makrolon® Silent Sound**  
The Sound of Silence.

**makrolon®**

# Makrolon® Silent Sound

The transparent solution for noise Protection



## Makrolon® Silent Sound

Covestro is a leading manufacturer of polycarbonate sheets with the trademark Makrolon®. Benefit from our many years of experience in sheet extrusion and make us your partner for noise protection applications! With Makrolon® Silent Sound solid sheets, you can count on the highest quality – you will notice the difference in workmanship. Take a look for yourself!

## Less noise, better quality of life

Noise barriers reduce noise pollution enormously on motorways with heavy traffic, dual carriageways and railways and give the people in the neighbourhood a new feeling of life. Nice and quiet, instead of an annoying noise. Makrolon® Silent Sound sheet, 18 mm thick and weighing in at around 22 kg/m<sup>2</sup>, reduces the noise level by a noticeable 34 dB (DL<sub>n</sub>) (certified according to DIN EN ISO 717-1 by the Fraunhofer Institute for Building Physics, Stuttgart).

## Makrolon® – strong and tough

Noise barriers from Makrolon® meet the acoustic requirements for noise reduction and the demands of road safety, stability, and structural durability. Makrolon® Silent Sound sustainably reduces noise and is certified according to DIN EN 1793-2 (Noise protection measures on streets – test procedure for the determination of acoustic properties). Makrolon® Silent Sound is suitable for use on high-speed railways for speeds of up to 250 km/h according to the 'Leitfaden für die Zulassungen für Wandelemente von Lärmschutzwänden' (Guidelines on the approval of noise-protecting wall panels).





## An unbeatable security package

### Transparency which endures

With Makrolon® Silent Sound, a service life of around 50 years can be expected without the material experiencing any adverse effects from weather or having its resilience compromised. This is achieved by means of specially developed UV protection, making the solid sheets conform to the latest demands in infrastructure development. We issue a 15 year limited warranty for unbreakable strength and optical quality as standard.

The pendulum impact test and drop hammer test in compliance with DIN-EN 1794 - 2:2009 Annex B confirm the material's high impact resistance even under extreme freezing conditions. In concrete terms, this means that no additional collection devices for possible falling objects are necessary.

### Say goodbye to vandalism

Regardless of attempted vandalism or graffiti, Makrolon® Silent Sound BF AR is finished with an abrasion-resistant anti-graffiti coating which means graffiti doesn't stand a chance. The solid sheet meets the requirements for graffiti-resistance in accordance with NF F31-112.

In the event that the noise barrier should be defaced, any graffiti can be almost completely removed from the panel using a special cleaning agent. Further information is available in our separate technical documentation.

# Easily customisable design options

## At its best

Makrolon® can be easily manufactured and makes the hearts of architects beat faster. Makrolon® Silent Sound extended UV can be bent cold or processed flat. Freedom of design with virtually no limits.

The advantage: You can use the sheets straight on the building site – without any major machine expenditure. This saves on both time and costs.

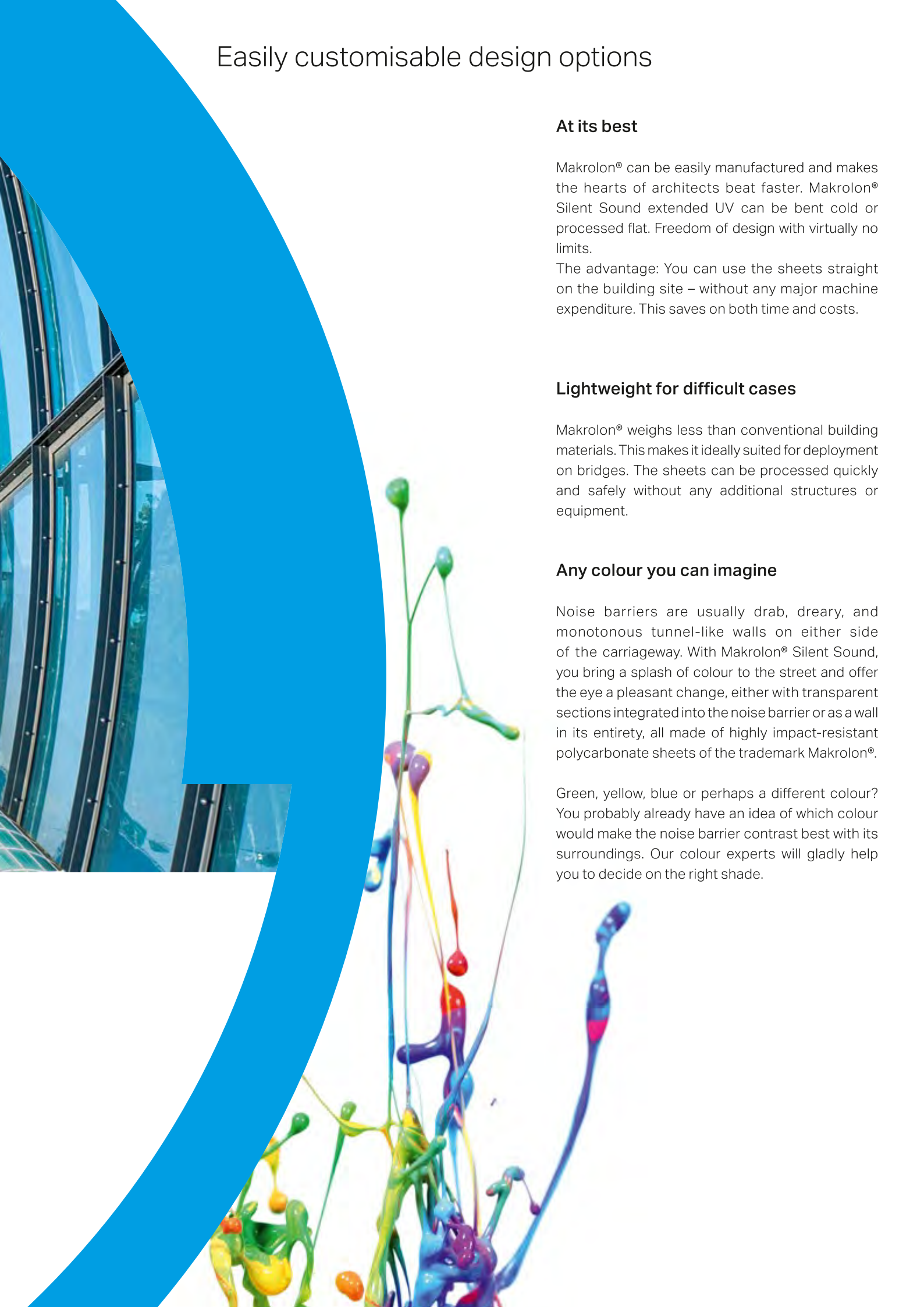
## Lightweight for difficult cases

Makrolon® weighs less than conventional building materials. This makes it ideally suited for deployment on bridges. The sheets can be processed quickly and safely without any additional structures or equipment.

## Any colour you can imagine

Noise barriers are usually drab, dreary, and monotonous tunnel-like walls on either side of the carriageway. With Makrolon® Silent Sound, you bring a splash of colour to the street and offer the eye a pleasant change, either with transparent sections integrated into the noise barrier or as a wall in its entirety, all made of highly impact-resistant polycarbonate sheets of the trademark Makrolon®.

Green, yellow, blue or perhaps a different colour? You probably already have an idea of which colour would make the noise barrier contrast best with its surroundings. Our colour experts will gladly help you to decide on the right shade.





# Protection of human and animal health



## Makrolon® Silent Sound

### The advantages:

- Bird strike protection in accordance with ONR 191040
- Anti-graffiti like in accordance with NF F31-112 through abrasion-resistant surface coating
- Tested wall panel for use on railway lines for train speeds of up to 250 km/h (18/20 mm thickness)
- Noise reduction of up to 34 dB (DL<sub>R</sub>)
- Extended UV – for cold bent and flat applications
- 15 year warranty
- Highest possible certified safety in accordance with: EN-14388/ ZTV-LSW 06

### Bird strike protection

Makrolon® Silent Sound with bird-friendly visual markings has a high success rate in effectively preventing bird strikes. This was investigated and proven by various material tests into measures against bird strikes in accordance with ONR 191040 (Austrian Standards Institute).

### Proven quality

Makrolon® Silent Sound solid sheets from Covestro are certified fire-resistant in accordance with DIN EN 1794-2 Annex A. We can assure you of this, as we are always having the important characteristics of our solid sheets tested and certified – the statics in accordance with the European guidelines of ETAG 10, the light transmittance, hail resistance and impact resistant glazing in accordance with DIN EN 1794-1 Annex C.

The Federal Ministry for Transport's technical guidelines ZTV-LSW 06 for using noise barriers on streets as well as the European EN 14388 guidelines form the legal basis for using Makrolon® Silent Sound solid sheets for noise protection.



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