



DACRYL RECYCLING DESIGN AT THE SERVICE OF CSR

**CSR REPORT
DACRYL 2021**

OUR SUSTAINABLE APPROACH

Dacryl, manufacturer of decorative acrylic panels, is a family-owned company committed to the respect of the environment and sustainable development.

When it comes to environmental issues or ethics at work, we do everything we can to create value and improve our working environment.

As a member of the plastics industry, we are aware of our role in the fight against plastic pollution and we commit ourselves through rules, values but also through different actions which constitute our fundamental purpose.



1/ THE DACRYL MATERIAL

Dacryl is made from an acrylic monomer, otherwise known as methyl methacrylate or MMA. Monomers are molecules, usually derived from coal or petroleum, which are the basis of plastics.

The monomer is transformed by a polymerization cycle into a polymer.



The polymerization of a Dacryl sheet is achieved by a physical principle of molecular bonding. This process is activated by heating the monomer at low temperature.

We operate on the basis of a circular economy. The polymerization action is totally reversible. It allows a complete recycling of the material for a new production.

Dacryl panels are inert and have no impact on the environment, no toxic migration in nature nor on human beings.

2/ PRODUCTION

Our manufacturing process does not involve any chemicals such as plastic catalysts but is done thanks to a temperature cycle.

The phenomenon is physical, not chemical. By heating, the material hardens and creates natural exothermicity. As a consequence, the material itself generates the increase of temperature necessary for its polymerization.

This principle allows Dacryl to considerably reduce its energy needs and to widen the gap with glass production. Yes, like PMMA, glass can be melted over and over again, but its melting temperature is 1500°C, therefore its carbon footprint is much higher than plastic: 345 grams of CO2 for a glass bottle, against 129 grams for a plastic bottle.



Moreover, our production is based on demand: we do not keep a stock of materials and we manufacture according to customers' orders. There is therefore no problem of overproduction.

3/ DACRYL WORKSHOPS

Historical site of acrylic production, our Dacryl factory is located in the center of France, between the cities of Nevers and Moulins. In business for over 40 years, this factory in a rural area has always created an economic dynamic in the region.

For the most part, our employees have taken part in the Dacryl adventure since its creation. Over the years, they have acquired unique and valued technical skills.



This expertise has helped Dacryl to receive the Atelier d'Art de France label.

We favor long-term jobs such as permanent contracts and invest as much as possible in the local area.

Three years ago, we also invested in an instant steam boiler, which has reduced our fuel consumption by 40%. In addition, we are implementing a new heating system and are working on installing photovoltaic equipment to minimize the use of fossil fuels.

4/ OUR RECYCLING PROCESS

We process and recycle all our waste in-house. As these are essentially offcuts, we create and manufacture collections made from these elements in our workshops.

Over the years, we have developed several recycling techniques, transforming these offcuts either into new material or into design pieces.



93%

**OF OUR OFFCUTS ARE
RECYCLED IN-HOUSE**

5% of the remaining offcuts are
recyclable by specialized partners.



0km

**THE MATERIAL REMAINS IN
OUR MANUFACTURE FROM
ITS TRANSFORMATION
TO ITS RECYCLING**

All stages of production as well as
finishing and recycling are done in
our workshops in the Centre region



SHREDDED

- The offcuts of our Dacryl sheets are sorted by color, then crushed into granules of 8 to 10mm.
- The granules are cast again into a sheet and diluted in recycled monomers.
- The material loses some transparency, but the result is unique!

PATCHWORK

- Dacryl offcuts are sorted according to color, size and type of inclusion.
- They are then cast again into a sheet, mixed with pure MAM (10% - syrup binder).
- We have created a collection of 3 designs depending on the offcuts we select.
- Standard size: 2500x1000mm.



CHUTTT! FRAME

- We collect the saw cuts of our sheets and fix them on a wooden frame to create an original light fixture.
- The offcuts are adapted to the architect's or designer's request.
- The panels are illuminated by a low voltage led strip.
- Standard size: 1200x1000mm.

5/ VEGECRYL

The regional council of Centre-Val de Loire has asked our Dacryl factory to implement a circular economy to find a second life to agricultural waste.



After many tests and prototypes, we have developed a new material called Vegecryn. The wastes from the farms are collected and then cast in our recycled material.

The formulation we developed has unique characteristics and has applications in the field of interior design.



THE MATERIAL

- The agricultural residues used are hemp, flax and straw.
- The optimal combination is 20% recycled Dacryl (transparent binder) and 80% plants.
- These plants are first steamed to remove as much moisture as possible, then cold cast in the recycled Dacryl.

ITS CHARACTERISTICS

- Lightness : density of 0,75
- High buoyancy
- Thermal properties
- Bendable : at low temperature
- Compatible with all fireproof treatments
- Aesthetic : organic, natural, trendy

ITS APPLICATIONS

- Building in second work (filler)
- Sanitary
- Furniture
- Decorative product
- Substitute for : MEDIUM, MDF, OSB, Chipboard