

## SPOON CHAIR seats des. Antonio Citterio with Toan Nguyen



Leader in the industrial production and distribution of plastic accessories and design items, Kartell has always focussed on, and been dedicated to, research in avant-garde technologies and production processes. Quality, reliability, safety and respect for the environment have always been the company's key values.

From its creation in 1949 to today, Kartell has designed an incredible range of products, the fruit of creativity and of partnerships with the world's greatest designers. Our products are made using top-quality plastics, most of which are recyclable and environmentally friendly; our production processes are optimized to avoid excessive consumption and waste that are harmful to the environment and resources.

In 1996, Kartell received **UNI EN ISO 9001** certification for its Corporate Quality Management System. In 2012, we were also awarded **UNI EN ISO 14001** certification for our efficient Environmental Management System.

These certifications are proof that Kartell applies a careful control system that assesses and verifies the appropriateness of its technology, industrialization, quality and environment, in order to reconcile its industrial processes with the end consumer's needs and expectations.



And, reflecting its concern for protecting the health of the end consumer, Kartell is set to receive Greenguard certification for its collections in 2014. Greenguard was created in the United States in 2001 to develop a series of technical requirements to certify materials for indoor use. This certification attests to the quality of the air breathed in closed spaces furnished with Kartell products.

The parameters used are very strict, requiring that the furniture used and certified respect very specific emission limits in order to protect consumers' health, with particular regard to children.

When buying a Greenguard certified item, customers can be sure they are purchasing an inspected and safe product that does not pollute.

Greenguard is required by many certification boards for green buildings (LEED; CHPS; ASHRAE; Green Globes, NAHB; IgCC, CONSIP) worldwide.

Kartell's concern for the environment is reflected in its use of top-quality plastics that are clean, certified, environmentally friendly and mostly recyclable, along with packaging solutions that avoid waste.

We take great care to guarantee recyclability throughout our production cycle, right from the earliest design stages.

Recyclability is one of the strong points of Kartell's products: at the end of their life, all of Kartell's products plastic components can be recycled again and again. But is there an "end of life" for a Kartell product?



# POLYPROPYLENE AND POLYETHYLENE

Polypropylene and polyethylene are thermoplastic polymers belonging to the polyolefins family: these are plastics made of hydrocarbons with a high molecular weight that include Linear Density Polyethylene (LDPE), Low Density Polyethylene (LDPE) and High Density Polyethylene (HDPE), Polypropylene (PP), as well as Polymethylpentene (PMP or TPX).

The family of polyolefins has high mechanical resistance, are non-toxic and non-contaminant; they are also the only plastics lighter than water and easily resist exposure to most chemicals.

They are easy to colour and easier to modify to create specific alloys, combined with minerals like talc, based on the product's requirements.

Polypropylene (PP) is a lightweight, translucent and strong material.

It has excellent chemical (at ambient temperature it cannot be dissolved by any solvent) and mechanical resistance.

It is weather resistant, so it can be used to make products for outdoor use.

The material's performance and physical appearance, hot and pasty, make propylene particularly well suited to manufacturing chairs.

Polyethylene (PE) is a chemically inert plastic.

No substances have been found that can dissolve PE at ambient temperature; when in contact with extremely aggressive solvents, it softens or swells, but these effects are generally reversible.



# UNI TECHNICAL STANDARDS

Reliability test results conducted and available

Reference technical standards	Test reference	Reached level
EN 15373:2007	General safety requirements paragraph 5.1 paragraph 5.2	Conform
EN 1728:2000	Static load on the back of the seat paragraph 6.2.1	Maximum level: level 3°
	Static load on the front edge of the seat paragraph 6.2.2	Maximum level: level 3°
	Static vertical load on the arms paragraph 6.6	Maximum level: level 3°
	Fatigue strength of the seat/back paragraph 6.7	Level 2°
	Ear and tear on the front part of the seat paragraph 6.8	Maximum level: level 3°
	Fatigue strength of the arms paragraph 6.10	Maximum level: level 3°
	Resistance of the seat to blows paragraph 6.15	Maximum level: level 3°
	Resistance of the back to blows paragraph 6.16	Maximum level: level 3°
	Resistance of the arms to blows paragraph 6.17	Maximum level: level 3°

Level	Suggested use
1	Heavy domestic, use Light collective use
2	Collective use: public areas, waiting rooms, restaurants, offices
3	Heavy collective use: schools, prisons, hospitals

Fire reaction test	Ministerial certification
IT UNI 9177 class 1IM	MI1848D20D11M00003
UK Standard BS5852 CRIB5, BS 7176 e EN 1021	
US - CALIFORNIA Standard TB 117	

# PRODUCT RECYCLABILITY AND REUSE

The very high quality of the materials used by Kartell for production gives its products a very long life. But what happens at the end of a Kartell product's life cycle?

The materials used to manufacture this product are 100% recyclable, based on generally applied criteria at the local level (recycling bins or recycling centres).

In this way, Kartell products can be reused to manufacture other objects. This transformation can potentially be repeated indefinitely.

## Care

To care for your Kartell products, protecting their original characteristics, you just need to keep a few simple things in mind for each individual type of material.

## Plastics

When cleaning plastic surfaces, use a damp, soft cloth with neutral liquid soap or cleanser, preferably diluted. Do not use ethyl alcohol or cleansers containing even the slightest amount of acetone, trichlorethylene, ammonia or solvents as these substances will permanently damage the plastic. In addition to the corrosive substances listed above, avoid abrasive substances, including powdered cleansers, abrasive creams and cleaning tools with coarse surfaces, such as steel wool or rough sponges.

## Packaging

All of this product's packaging—cardboard, plastic wrap, paper—is 100% recyclable, based on generally applied criteria at the local level (recycling bins or recycling centres). This is the best way you can contribute to environmental sustainability: avoid waste and avoid "littering" the environment with excessive waste.



# "QUALITY CONTROL" LABEL

Kartell uses various control systems in its production.

The red "QUALITY CONTROL" label found inside each box is your guarantee that the product was checked by a Quality Control inspector before being packaged.

The codes on the control label are used to trace essential data in the event there is a problem with the product.

