

# Eames Plastic Arm Chair RE (DAR)

Design: Charles & Ray Eames



## SUSTAINABILITY

For Vitra, environmental, economic and social conduct begin with the individual. In order to develop, manufacture and market dependably long-lasting and environmentally sound products, Vitra complements this key factor of individual initiative with regular audits of the company's standards by independent review entities.

## VITRA AND THE ENVIRONMENT

Vitra has manufactured furniture designs by Charles & Ray Eames and George Nelson since 1957. Building on this foundation over the years, the company has developed a wide range of furnishings for the office, for the home and for public spaces in collaboration with progressive designers.

Since 1997 Vitra has implemented a certified system for quality and environmental management according to the standards of **DIN EN ISO 9001** and **DIN EN ISO 14001**. Vitra is committed on all levels to reducing the use of energy, raw materials and other resources – thereby reducing the environmental impact caused by emissions, waste water and waste materials. The most important contribution of Vitra to environmental sustainability, however, is the high quality and enduring design of its long-lasting products. The unusually long life cycle of Vitra products is ensured by aesthetics that do not follow temporary trends and fashions, and also by a careful selection of materials and the use of innovative technologies. The longevity of Vitra products is increased by the replaceability of wearing parts.

Trucks are to leave Vitra production sites preferably with a full load; the use of returnable packaging is being constantly increased. Preference is given to rail transport; overseas cargo is sent by ship and special transport is avoided. Vitra uses environmentally friendly materials for packaging and minimizes the volume of packaged products to make efficient use of the loading space in truck trailers and shipping containers.

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## MATERIALS

**Aluminium** is light and durable. Die-cast aluminium components by Vitra are principally made out of remelted alloys which are largely recycled material. When remelting recycled aluminium there is an energy saving of 94% compared to the production of primary aluminium. Aluminium components are 100% recyclable.

**Steel** is a stable compound of iron and carbon with various added alloys. As the technical properties such as strength and elasticity can be adjusted according to the steel grade, the material can be used flexibly in many different forms. At the end of the product life cycle, steel components can be melted down and completely recycled.

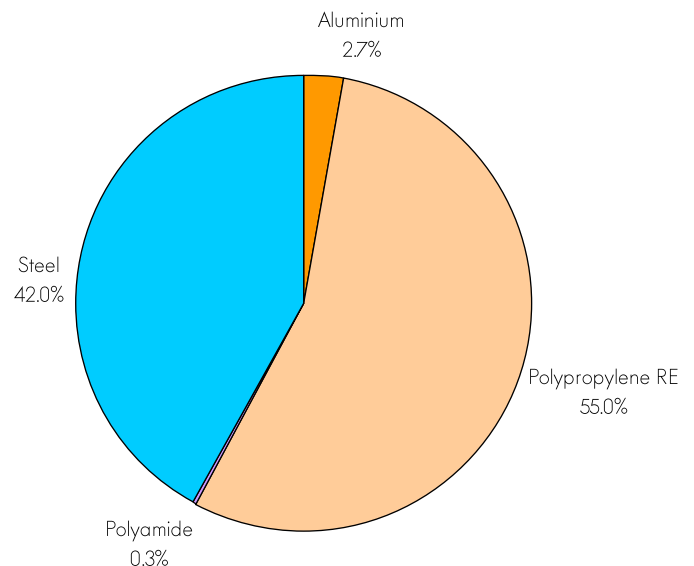
**Zinc** can be cast very well with the addition of alloying elements. Zinc can be recycled with little energy use.

**Polyurethane** – Vitra uses this material primarily as permanently elastic soft foam in the production of covers. CFCs have not been used to expand polyurethane upholstery since as early as 1989. Polyurethane foams are mostly recycled thermally to generate energy or as a composite.

**Polypropylene** is a very strong thermoplastic synthetic material. With the addition of a small amount of new material, polypropylene can be 100% recycled. In order to facilitate single-variety separation and recycling, all plastic components that are large enough are labelled according to ISO 11469:2000.

**Polyamide** is a very strong thermoplastic synthetic material. With the addition of a small amount of new material, polyamide can be 100% recycled. In order to facilitate single-variety separation and recycling, all plastic components that are large enough are labelled according to ISO 11469:2000.

**Polyester** is used first and foremost for cover fabrics and non-woven fabrics at Vitra. All cover fabrics undergo strict



Eames Plastic Arm Chair RE / Dining Height Arm Chair Rod Base (DAR) without upholstery / Base basic dark  
Cover fabrics will be separated into synthetic materials and natural fibres, depending on the material.

quality control tests and satisfy the ecological criteria of the German Consumer Goods Ordinance. Polyester is a thermoplastic and can be remelted. However, cover fabrics are generally used thermally or as a material.

**Other thermoplastics** are used for special applications. Vitra principally prefers thermoplastic to duroplastic synthetics, as with the addition of a small amount of new material, they are 100% recyclable. In order to facilitate single-variety separation and recycling, all plastic components that are large enough are labelled according to ISO 11469:2000.

**Wood and wood products:** Wood is a renewable, natural raw material. Wood products like chipboard and MDF have the advantage that they can be processed more easily and flexibly than wood and do not deform at different moisture levels like solid wood. In the production of wood products we partly also use surplus wood from the wood industry and thus help preserve valuable resources. All the wood products used by Vitra satisfy the emission category E1 and therefore emit less than 0.1 ppm formaldehyde.

**Natural fibres** such as cotton and wool are natural components of the cover fabrics by Vitra. All cover fabrics undergo strict quality control tests and satisfy the ecological criteria of the German Consumer Goods Ordinance.

**Leather** is a natural material which is tear and scratch-resistant and at the same time is soft and pleasant to the touch. An independent institution checks at regular intervals whether the leather used by Vitra is within the legal maximum limits for harmful substances.

## **RECYCLING, PACKAGING AND REUSE OF PRODUCTS**

Once a product reaches the end of its life cycle, it must be disposed of.

### **Recyclability:**

Eames Plastic Arm Chair RE (DAR) is 100% recyclable when fully separated. Vitra understands the term recyclability to signify only melting down and reuse of raw materials. Polyurethane and wood products, for example, cannot be melted down. However, these materials can be used thermally to generate energy or can be crushed and recycled as materials.

### **Proportion of recycled material:**

Eames Plastic Arm Chair RE (DAR) contains 71% recycled material. Using recycled materials conserves valuable resources. With their proportion of recycled material, among other things, Vitra products can contribute to a good rating in certification programs for sustainable buildings (for example LEED). We will be happy to assist you should you require more information on this subject.