

THE POWER OF STEEL

ARCELORMITTAL ORBIT QUEEN ELIZABETH OLYMPIC PARK, LONDON

The ArcelorMittal Orbit is the **UK's tallest sculpture** and the **longest and tallest tunnel slide** in the world. It is made of **35,000 bolts** and enough steel to make **265 double-decker buses**. Steel was partly chosen as a building material for its infinite **recyclability** – 60% of the ArcelorMittal Orbit is made from **recycled steel**, including washing machines and used cars!

CHOOSING THE RIGHT MATERIAL FOR THE JOB

When creating a structure like the ArcelorMittal Orbit, great consideration must be given to choosing the right material for construction, reflecting on key properties of a material, including:

HARDNESS

Resistance to scratching, deformation, cutting & wear.

STRENGTH

Ability of a material to stand up to forces being applied without it bending or breaking.

TENSILE STRENGTH

Strength of the material when stretched.

ELASTICITY

The ability to get back to its original shape after it has been misshapen.

MALLEABILITY

The ability to be easily pressed, spread & hammered into shapes.

DUCTILITY

The ability of a material to change shape usually by stretching.

PLASTICITY

The ability of a material to be changed in shape permanently.

TOUGHNESS

Resistance to breaking, bending or deforming.

COMPRESSIVE STRENGTH

Strength when under pressure.

BRITTLENESS

Materials that can withstand little or no plastic deformation & break easily without bending.

The ArcelorMittal Orbit is 114.5m tall

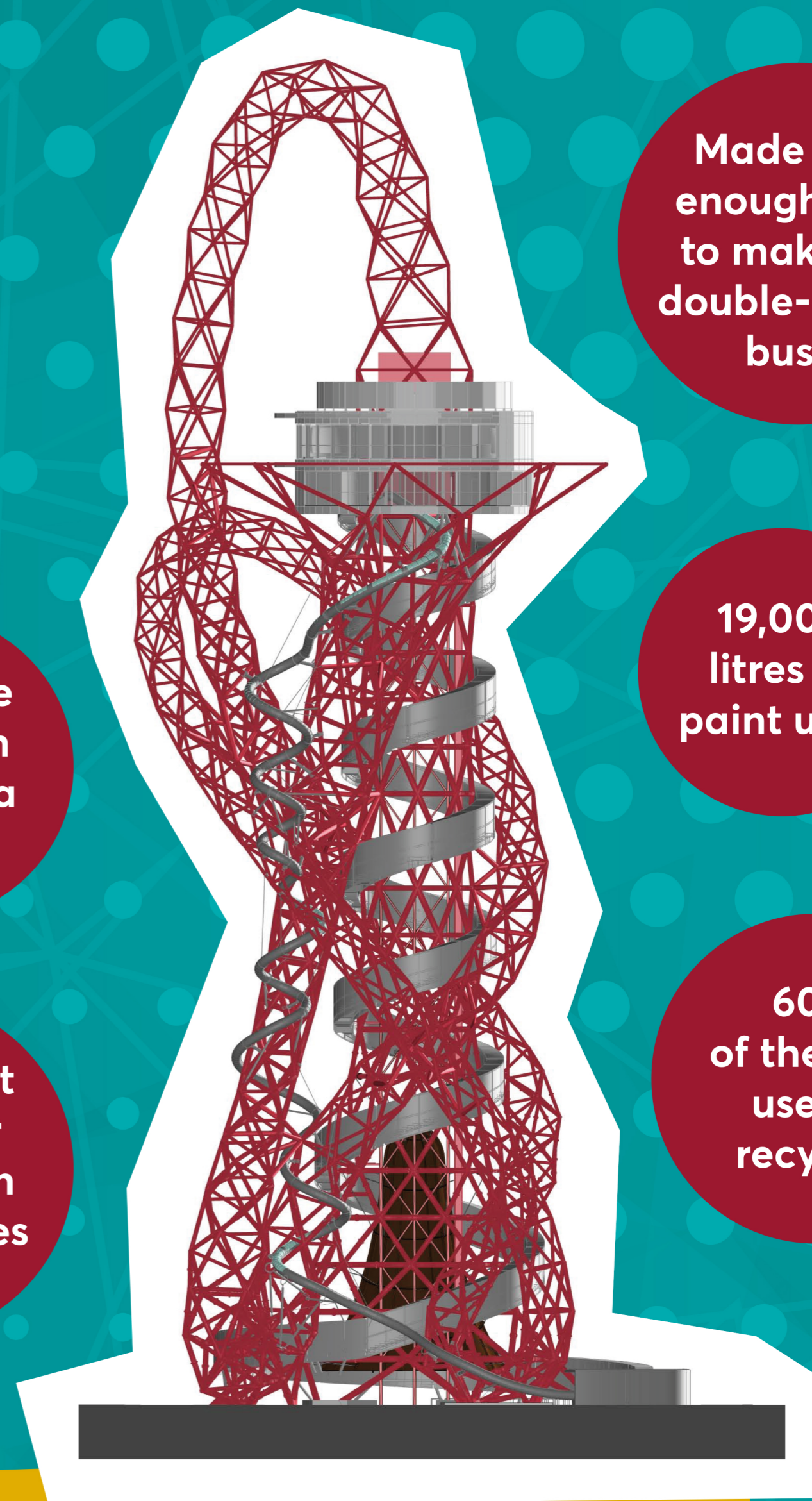
There are five main loops of a 3D knot

The vibrant red colour was chosen as it signifies luck

Made from enough steel to make 265 double-decker buses

19,000 litres of paint used

60% of the steel used is recycled



What properties make stainless steel a good choice for the Slide?