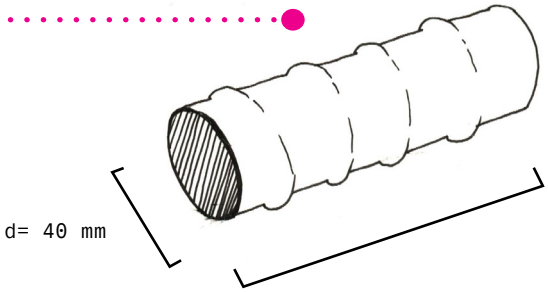
Rebars

Construction Site Exercise
TS2 Materials

Raphael Fogel

Morwell Street Construction Site



Various Lengths ranging aprx. from 1/2 - 15m

Linear Mass Density: 9.868 kg/m

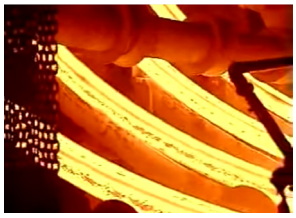
Material Used: Tempered Steel

Grades: Various grades exist.
Grades are defined by the following properties:
Yield Strength
Ultimate Tensile Strength
Chemical Coposition
Percentage of Elongation

Sourcing: The rebar was sourced from a steel product manufacturing company. The Steel is most likely from China yet due to the age of the building it could have also been manufactured in Britain.

Fabrication Process: Heated Steel is poured into water-cooled, oscilating, copper molds. The billets are channeled through a roughing mill, an intermediate mill and a finishing mill which give it its ripple shape. Finally the rebars are cut into sizes via. a 'flying shear'.

Pouring



Copper Molds

Milling

Cutting

Material Strenghts & Weaknesses (Steel): High Tensile Strength. Low Cost. Compared to Iron Steel is harder, more ductile and posseses greater tensile strength. Corrodes. Thermal properties resemble those of concrete thus they are often used together to compliment each other's properties.