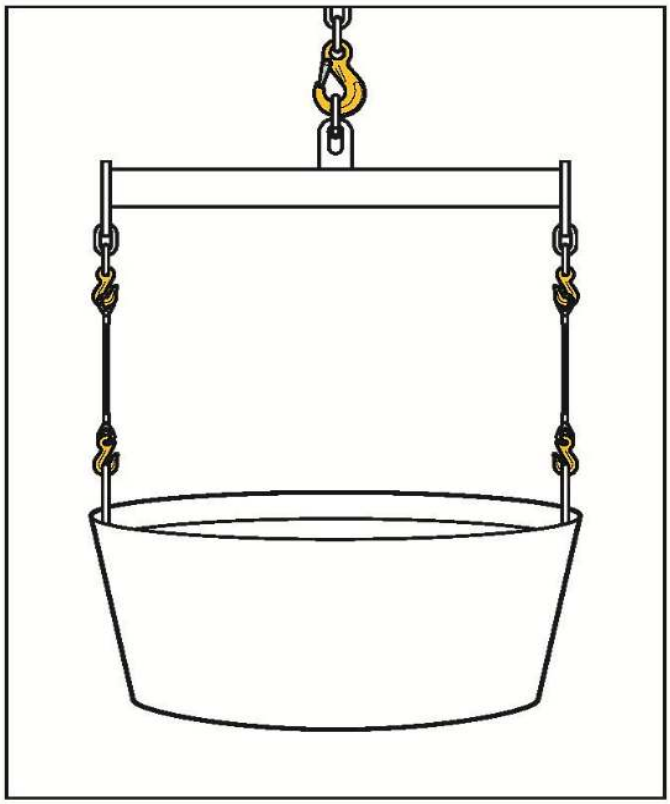
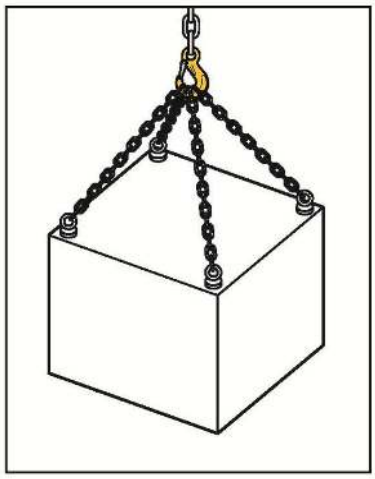
Q1- The weight of a load is 4000kg. It is to be lifted using a lifting beam and two FSWR slings. The lifting beam weighs 50kg and is rated to 5 tonnes.



Using this total load, calculate the minimum diameter of FSWR slings.

Show all calculations and a final answer in whole **millimeters**.

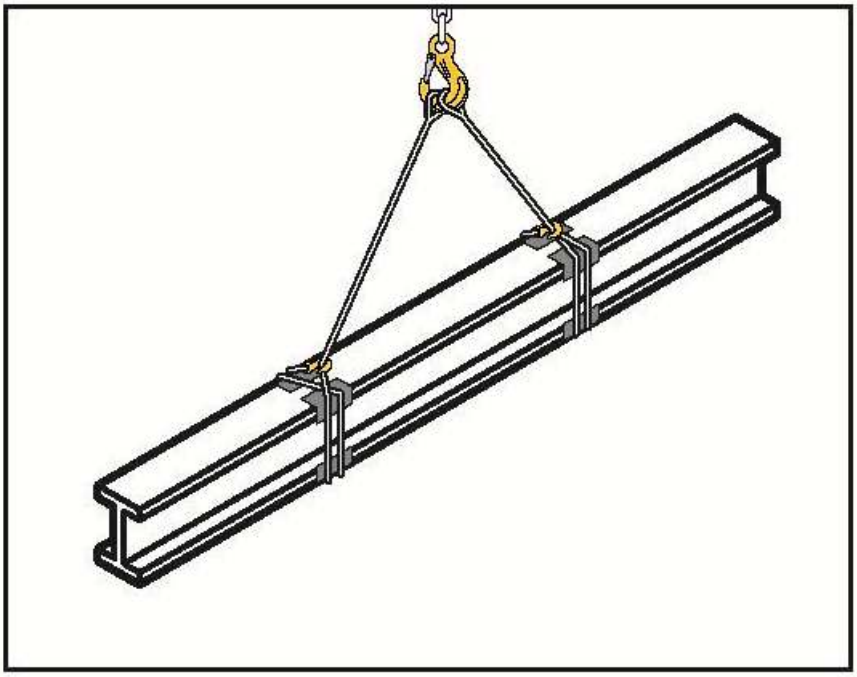
Q2- A rigid box with built-in lifting lugs is to be lifted, as shown.



- The included angle between the diagonally opposite sling legs is 60degrees.
- The chain slings are Grade 80 chain.
- The chain diameter is:
    - 6 mm or
    - 8 mm or
    - 10 mm.

Calculate the maximum load that can be lifted. Show all calculations and a final answer in kilograms.

Q3- A pair of FSWR reeved slings is to be used to lift a steel beam, as shown.

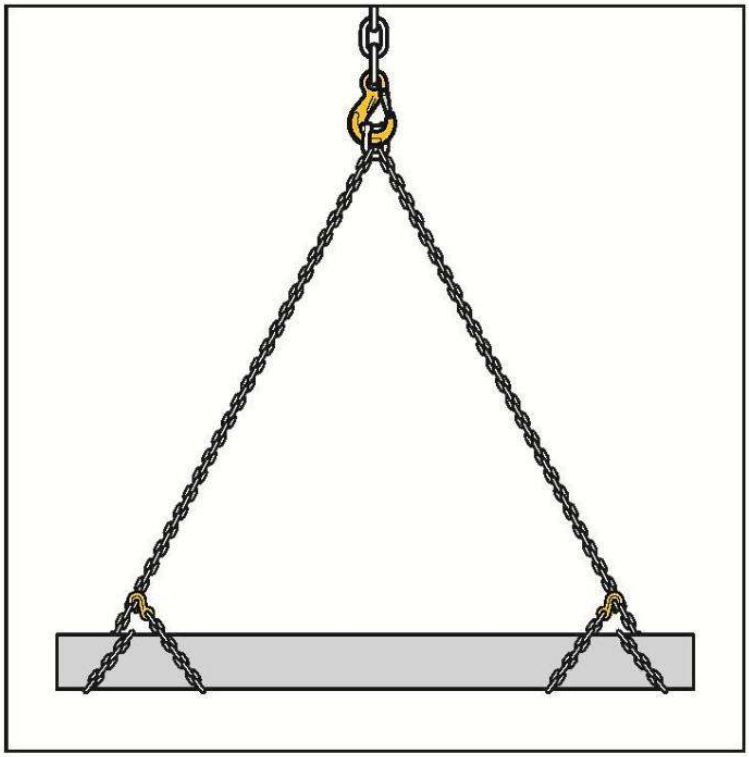


- The included angle between the sling legs is 120 degrees.
- Weight of the beam is 125kg per lineal meter.
- The length of the steel beam is either:
    - 6 m
    - 9m, or
    - 12m.

(a) Calculate the entire weight of the load made up of that beam.

(b) Calculate the minimum size slings required for the nominated beam.

Q4- A set of grade 80two-leggedchainsare reeved around a square load.



The included angle for the slings is:

- 60 degrees
- 90 degrees, or
- 120degrees.

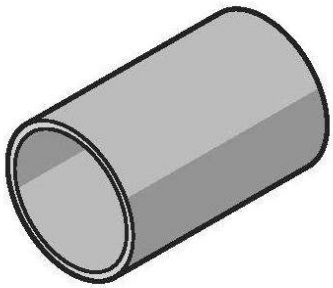
The weight of the load is:

- 450 kg
- 700 kg, or
- 980 kg.

What diameter chain slings would be used as a minimum?

Q5- Calculate the weight of a hollow concrete water pipe with dimensions of:

- Wallthickness:100mm
- Length: 3.2 m
- Outside diameter: 1.4m
- Inside diameter: 1.2 m.



Note: Solid concrete has a mass of 2400kg per cubic meter.

Show all calculations and a final answer in **kilograms**.

Q6- Calculate the total weight of a load made up of the following:

☐3 universal beams each 9 metres long

☐29 timber beams each 3.6 metres long

☐1 mild steel plates 6.5metres long and 0.8 metres wide.

NOTE:

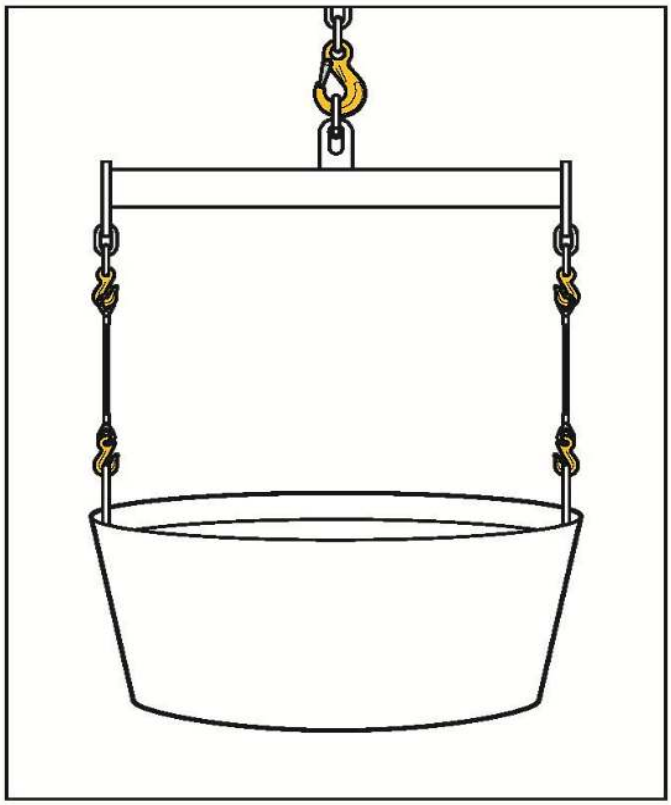
☐One metre of universal beam has a mass of 126 kg

☐One metre of timber beam has a mass of 6.5 kg

☐One square metre of mild steel plate has a mass of 199 kg.

Show all calculations and a final answer in **kilograms**.

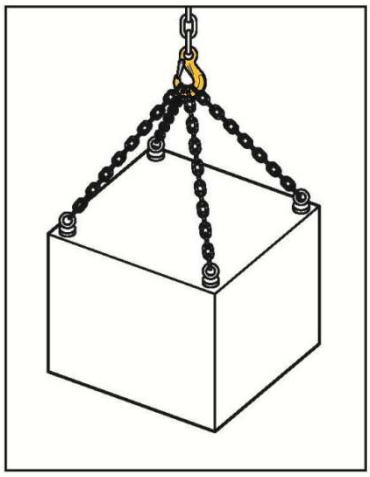
Q7- The weight of a load is 36900kg. It is to be lifted using a lifting beam and two FSWR slings. The lifting beam weighs 2550kg and is rated to 40 tonnes.



Using this total load, calculate the minimum diameter of FSWR slings.

Show all calculations and a final answer in whole **millimeters**.

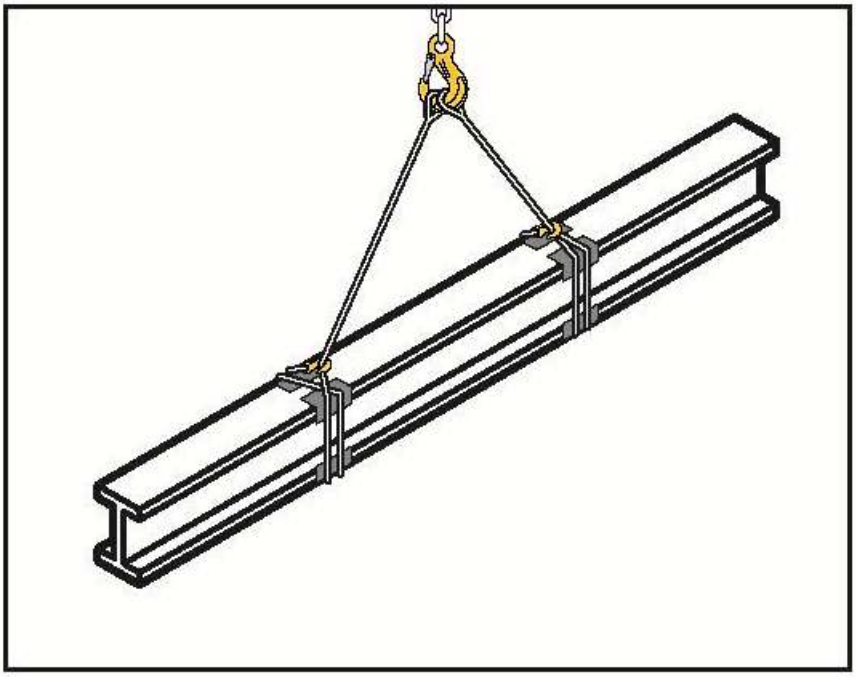
Q8- A rigid box with built-in lifting lugs is to be lifted, as shown.



- The included angle between the diagonally opposites ling legs is 90degrees.
- The chain slings are Grade 100 chain.
- The chain diameter is:
    - 10 mm or
    - 13 mm or
    - 16 mm.

Calculate the maximum load that can be lifted. Show all calculations and a final answer in kilograms.

Q9- A pair of FSWR reeved slings is to be used to lift a steel beam, as shown.

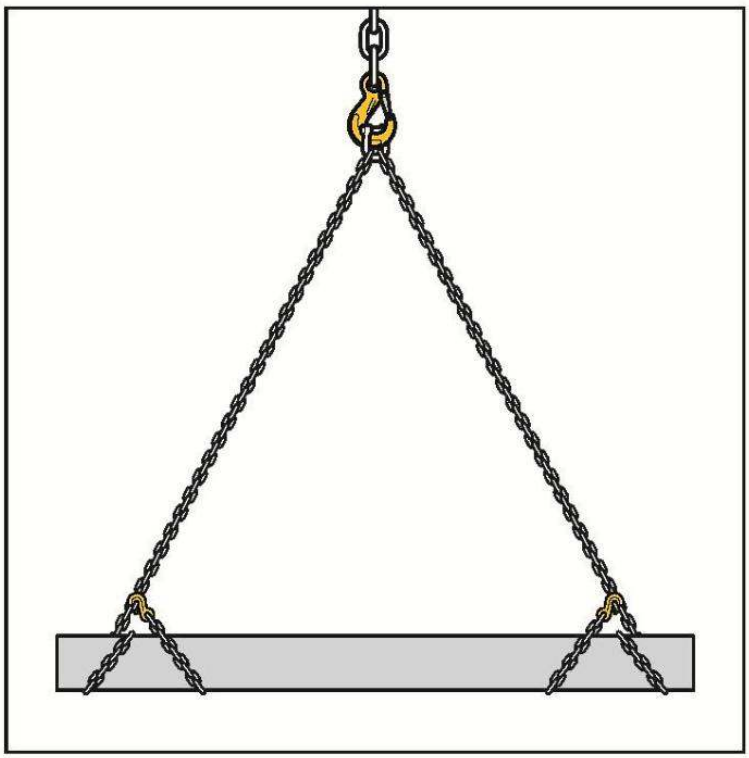


- The included angle between the sling legs is 60 degrees.
- Weight of the beam is 146kg per lineal meter.
- The length of the steel beam is either:
    - 3 m
    - 6m, or
    - 9m.

(a) Calculate the entire weight of the load made up of that beam.

(b) Calculate the minimum size slings required for the nominated beam.

Q10- A set of grade 80 two-legged chains are reeved around a square load.



The included angle for the slings is:

- 60 degrees
- 90 degrees, or
- 120degrees.

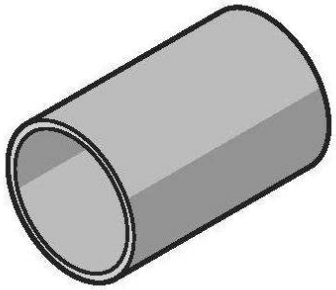
The weight of the load is:

- 600kg
- 975 kg, or
- 1595 kg.

What diameter chain slings would be used as a minimum?

Q11- Calculate the weight of a hollow concrete water pipe with dimensions of:

- Wallthickness:100mm
- Length: 1.86 m
- Outside diameter: 0.8m
- Inside diameter: 0.6 m.



Note: Solid concrete has a mass of 2400kg per cubic meter.

Show all calculations and a final answer in **kilograms**.

Q12- Calculate the total weight of a load made up of the following:

☐12 universal beams each 3 metres long

☐18 timber beams each 5.8 metres long

☐ 9 mild steel plates 3.0 metres long and 1.5 metres wide.

NOTE:

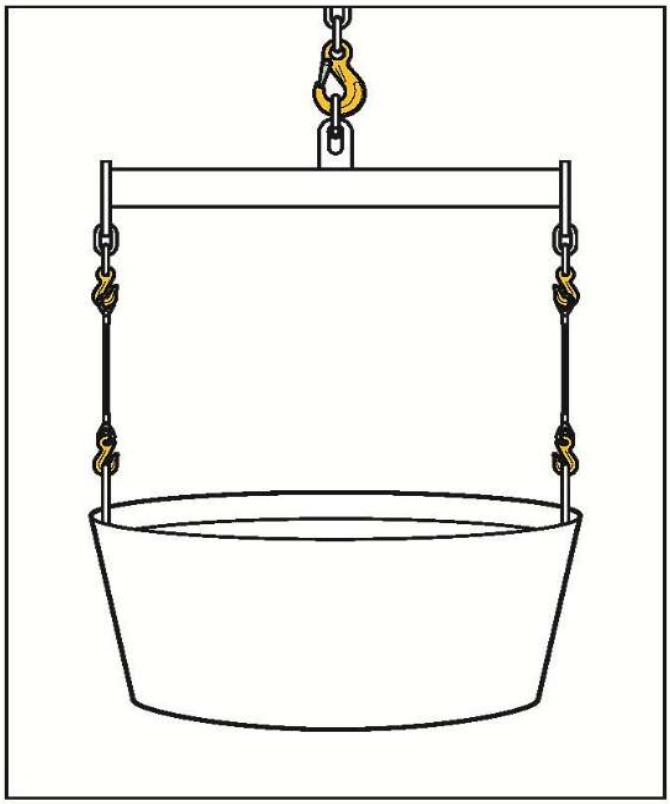
☐One metre of universal beam has a mass of 46 kg

☐One metre of timber beam has a mass of 10 kg

☐One square metre of 32mm mild steel plate has a mass of 251.2 kg.

Show all calculations and a final answer in **kilograms**.

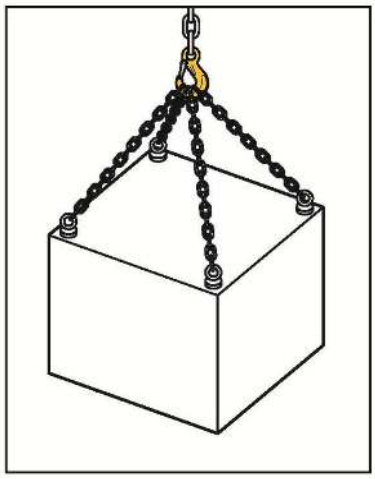
Q13- The weight of a load is 3500kg. It is to be lifted using a lifting beam and two FSWR slings. The lifting beam weighs 50kg and is rated to 5 tonnes.



Using this total load, calculate the minimum diameter of FSWR slings.

Show all calculations and a final answer in whole **millimeters**.

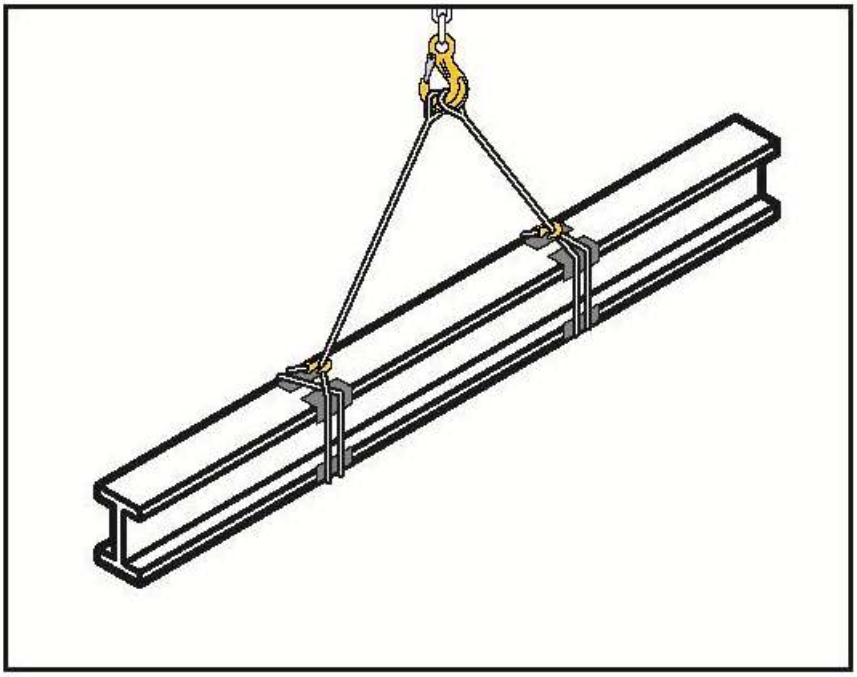
Q14- A rigid box with built-in lifting lugs is to be lifted, as shown.



- The included angle between the diagonally opposite sling legs is 60degrees.
- The chain slings are Grade 80 chain.
- The chain diameter is:
    - 6 mm or
    - 8 mm or
    - 10 mm.

Calculate the maximum load that can be lifted. Show all calculations and a final answer in kilograms.

Q15- A pair of FSWR reeved slings is to be used to lift a steel beam, as shown.

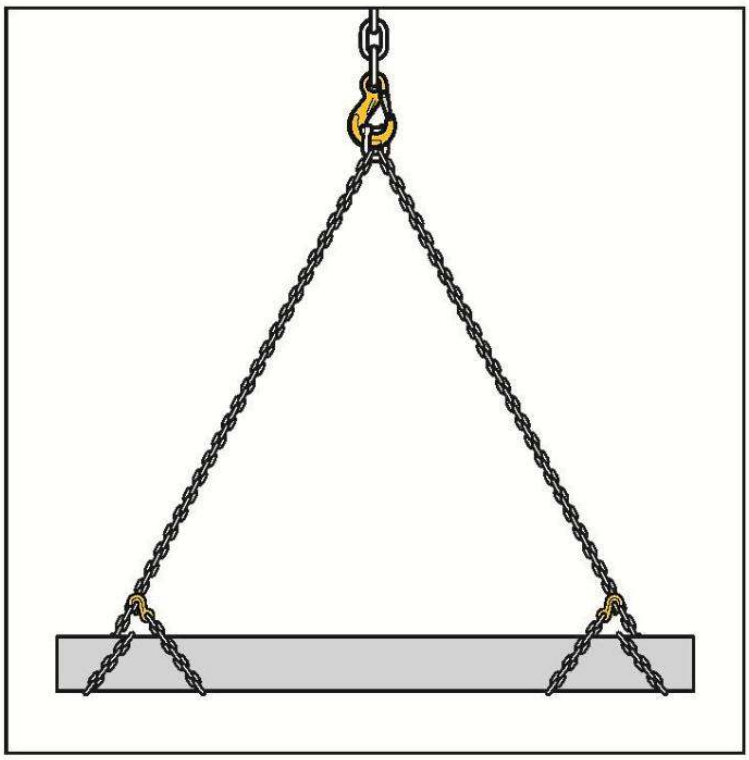


- The included angle between the sling legs is 120 degrees.
- Weight of the beam is 125kg per lineal meter.
- The length of the steel beam is either:
    - 6 m
    - 9m, or
    - 12m.

(a) Calculate the entire weight of the load made up of that beam.

(b) Calculate the minimum size slings required for the nominated beam.

Q16- A set of grade 80two-leggedchainsare reeved around a square load.



The included angle for the slings is:

- 60 degrees
- 90 degrees, or
- 120degrees.

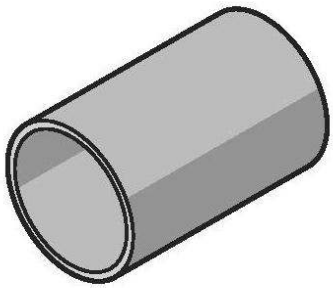
The weight of the load is:

- 550 kg
- 780 kg, or
- 980 kg.

What diameter chain slings would be used as a minimum?

Q17- Calculate the weight of a hollow concrete water pipe with dimensions of:

- Wallthickness:100mm
- Length: 3.2 m
- Outside diameter: 1.4m
- Inside diameter: 1.2 m.



Note: Solid concrete has a mass of 2400kg per cubic meter.

Show all calculations and a final answer in **kilograms**.

Q18- Calculate the total weight of a load made up of the following:

☐3 universal beams each 9 metres long

☐29 timber beams each 3.6 metres long

☐1 mild steel plates 6.5metres long and 0.8 metres wide.

NOTE:

☐One metre of universal beam has a mass of 126 kg

☐One metre of timber beam has a mass of 6.5 kg

☐One square metre of mild steel plate has a mass of 199 kg.

Show all calculations and a final answer in **kilograms**.