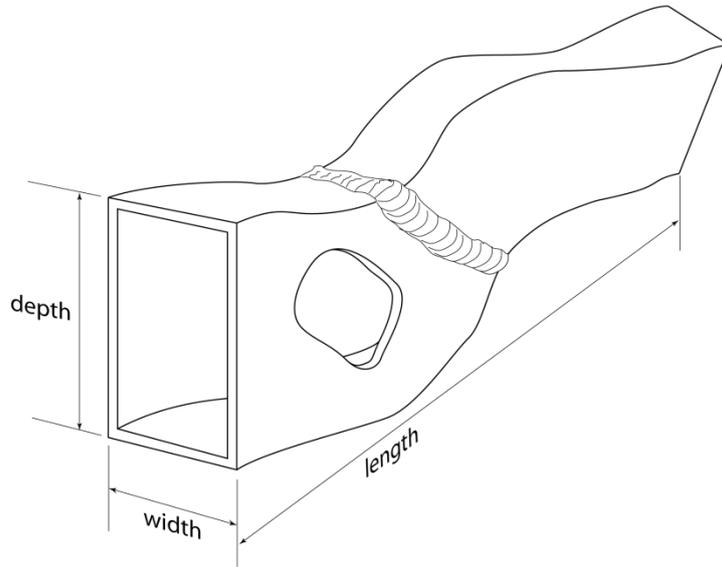


Chapter 7 Self Assessments

Practice Exercise 9: Beam Specification

So, what was in your beam specification outline?



Would this beam have been acceptable according to your specification?

Did your specification mention anything about the appearance of the beam? What is the surface finish expected to be? What kinds of paint could be used on the beam? Would the beam require any cleaning or subsequent surface preparation before it could be painted?

[give yourself up to 5 points for covering these issues]

Did your specification mention when and where the beam is to be delivered?

[give yourself up to 5 points for covering these issues]

Would it have been possible for the beam fabrication contractor to have provided the beam like the one shown in the diagram below? Although the diagram has deliberately exaggerated some features, did your specification mention anything about a possible twist in the beam between the two ends? Did it mention anything about the straightness of the beam?

[give yourself up to 5 points for covering these issues]

Did it mention anything about the need to supply the beam as a single piece of rolled steel without any welded or other joints? Did it mention anything about the absence of holes or other flaws in the material? Would it have been possible for the construction company to weld two second-hand pieces of appropriate rectangular hollow section together and provide this in order to save them some money?

[give yourself up to 5 points for covering these issues]

Would this have been permissible or even desirable, to reuse material recovered from another building? What did your specification have to say about this issue?

[give yourself up to 3 points for covering sustainability issues, recycling of used materials]

Did your specification mention anything about inspecting the beam and checking the material grade to ensure that the specification requirements will be met when the building work is conducted? Did the specification mention anything about the need for an independent inspector to be engaged to minimise any conflict of interest?

[give yourself up to 5 points for covering these issues]

Did your specification mention tests to be performed on the beam, or inspections, before it is accepted?

[give yourself up to 5 points for covering these issues]

What tests and inspections could confirm that the beam will perform its intended purpose for up to 200 years, when installed? What are the properties of the finished beam that could determine its useful life? Is there an anti-corrosive treatment specified? If not, how will you protect the beam from corrosion?

[give yourself up to 10 points for covering these issues]

If your specification outline covered all these issues, and referred to appropriate standards for structural steel, give yourself hearty congratulations. If not, learn from this exercise that technical communication is not as easy as it looks!

If you scored more than 25 points, well done!

Vocabulary Exercise

Explanations:

Deliverable: usually a document or information package specified in a contract that has to be provided to a client or a representative by a certain date, for example, a set of documents detailing the construction plans for a road.

Sentence example: "Wendy, please could you check to make sure that we have a complete list of all the deliverables that will be required by the end of March?"

[award yourself up to 7 points]

Driver: usually refers to an influential factor influencing decisions in a project. For example, different project drivers can be:

Cost – minimising the expenditure required, even if it delays the project,

Schedule – priority is given to meeting a required schedule even if the cost increases as a result), or,

Quality – priority is given to achieving a high level of technical performance, compromising both cost and time schedule if necessary.

Sentence example: “Since the primary drivers in this project are cost and schedule, it will be difficult to maintain the level of quality that the client has been used to achieving in the past.”

[award yourself up to 7 points]

Execution: usually refers to the later stages of a project after the final decision to proceed has been taken when construction, installation, commissioning and operations commence.

Sentence example: “Once we get into the execution phase, there won't be any further opportunities to make significant design changes.”

[award yourself up to 7 points]

Front end loading: refers to a decision to spend substantial resources (7% to 10% of the project cost) on the early stages of a project including initial commercial feasibility studies, preliminary design selection, and planning the detailed engineering design, procurement, commissioning, construction and operations. The “front end” of a project leads up to the final investment decision, the point of no return for the main project investors.

Sentence example: “Front end loading, spending more on planning, almost always saves money once the project enters the execution phase.”

[award yourself up to 10 points]