

**Room:** Railway Room  
**Project/Activity:** IFC Rail Phase 2  
**Document Title:** Unit Test Scenario: Cant Alignment 1  
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## Unit Test Scenario : Cant Alignment 1

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### 1 Intent

This Unit Test contains a railway alignment with horizontal, vertical and cant.

The scenario in this Unit Test has the horizontal alignment consists of straight line segments, circular segments and transition curve, vertical alignment consists of straight line and circular segments, and cant alignment consists of straight line segments only. The vertical alignment is measured from center line.

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### 2 Prerequisites

This scenario builds upon following scenarios:

- None from IFC Rail
  - Align\_1 from IFC Road
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### 3 Content

The scenario covers the following additional concepts and/or entities:

- Element aggregation (IfcAlignment is included in IfcSite)
  - IfcAlignment
  - IfcLinearAxisWithInclination
  - IfcAlignmentCurve
  - IfcAlignment2DHorizontal (IfcLineSegment2D, IfcTransitionCurveSegment2D and IfcCircularSegment2D)
  - IfcAlignment2DVertical (IfcAlignment2DVerSegLine and IfcAlignment2DVerSegCircularArc)
  - IfcAlignment2DCant (IfcAlignment2DCantSegLine)
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### 4 Supporting files

Following files correspond to this scenario:

- RWR-Rail-Phase2\_UT\_CanAlign\_1.docx : this document
- RWR-Rail-Phase2\_UT\_CanAlign\_1.ifc : the exported content as IFC
- RWR-Rail-Phase2\_UT\_CanAlign\_1.xtr: the input file for producing IFC
- RWR-Rail-Phase2\_UT\_CanAlign\_1.png: the UML diagram for tested structure
- RWR-Rail-Phase2\_UT\_CanAlign\_1\_2.jpg: screen shot of the vertical alignment in 2D
- RWR-Rail-Phase2\_UT\_CanAlign\_1\_3.jpg: screen shot of the cant alignment in 2D
- RWR-Rail-Phase2\_UT\_CanAlign\_1\_4.jpg: screen shot of the alignment in 3D (to be updated)

