



R1 05 80 04 Technical Directive

Tata Steel regulations for Autodesk Inventor

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Intended for the Location IJmuiden

The latest version can be retrieved via Intranet at Tata Steel IJmuiden (ProjectNet).

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1 Objective and validity

1.1 Objectives of these regulations

The objectives of these regulations are:

- Establishment of a uniform method of working in the use of Autodesk Inventor for Corus (IJmuiden site) in such a manner that 3D models and 2D drawings can be filed by means of standard procedures.
- Reduction in the exchange problems.

These regulations are to be used at all times in conjunction with any other common drawing regulations, as stipulated in Technical Directive R1058001

1.2 Application area

These regulations apply to all personnel, Companies and Sub-contractors using Autodesk Inventor to produce models and drawings for Tata Steel (IJmuiden site).

1.3 Validity

These regulations replace all previous versions.

1.4 Acceptance test

- The supplier must submit a set of test files at the outset of the design work.
- These test files must be representative of the package to be submitted.
- If Inventor models and drawings are produced by subcontractors, the latter must also submit test files for approval.
- The test files must be produced in accordance with the stipulations in these Regulations.
- The test files will only be used as reference documents after acceptance by the CAD support department.

1.5 Deviations from these regulations

If, in exceptional circumstances, it is necessary to deviate from these regulations this will only be permitted with the written approval of the CAD support department of Tata Steel.

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2 General regulations

2.1 Inventor version

Inventor models must be produced in version 2018.

2.2 Protection of information

The Supplier is responsible for complete software management including maintaining backup copies until submission to, and written acceptance by, Tata Steel.

2.3 Transfer of information

2.3.1 Media

Inventor models must be submitted on one of the following media forms:

- CD-ROM / DVD-ROM (preference)
- USB memory stick

2.3.2 Compression

Inventor files must not be compressed.

2.3.3 Completeness of information

Inventor projects must be delivered in full (without unresolved references) and without any unnecessary files such as old versions (OldVersions folders) and lockfile.lck files.

2.4 Documentation

Together with the delivery of an Inventor project the necessary metadata must be supplied in an accompanying Excel-sheet.

A template will be supplied by Tata Steel.

2.5 Modifications to Inventor models

Inventor models may only be modified using Inventor. Conversion to other systems is not permitted.

Inventor models to be modified will be made available by Corus. Files retained by the supplier must not be used.

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3 Specific Inventor regulations

3.1 Project settings (IPJ-file)

- All files related to the project must be located in the project folder.
- Unique File Names = YES

3.2 Part (IPT-files)

3.2.1 Algemeen

- The construction of an Inventor part must possibly match the way the part will be produced.
- If applicable, tolerances must be used in the sketch(es) or features of the 3D part so as to be automatically handed over to the 2D drawing and to prevent it from getting lost in case of an update of the drawing.
- For hole patterns the Pattern Feature must be used.

3.2.2 iProperties

For the purpose of automatically filling in the title block and partlist of the drawings the following iProperties must be used for parts:

iProperties Tab	Property name	Application in the drawing (IDW)
Project	Partnumber	Drawing number
	Description	Description of the drawing (last line of the title)
Custom	Afmeting	
	Massa	
	Materiaal	
	Materiaal/Norm	
	Omschrijving	
	Samenstellingsnaam	

3.2.3 Sketches

- Sketches must be fully constrained.
- Sketches must be dimensioned such that the dimensions needed in the 2D drawings can be placed automatically.
- For holes and fillets the appropriate part features must be used instead of circles and arcs in the sketch.

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3.3 Assemblies (IAM-files)

3.3.1 General

- In consultation with Corus reference planes and points must be determined for each installation/machine.
- Work Planes must be named explaining the function of the work planes.
- To prevent from getting inconsistent models during modifications all constraints must possibly be placed on work planes instead of “face to face”.

3.3.2 iProperties

For the purpose of automatically filling in the title block and partlist of the drawings the following iProperties must be used for assemblies:

iProperties Tab	Property naam	Application in the drawing (IDW)
Project	Partnumber	Drawing number
	Description	Description of the drawing (last line of the title)
Custom	Massa	
	Materiaal	
	Opmerking	
	Samenstellingsnaam	

3.4 Drawings (IDW-files)

3.4.1 General

Dimensions in the drawings must possibly be inherited from the 3D parts or assemblies.

3.4.2 iProperties

The title block of the drawing automatically inherits some iProperties from the 3D part or assembly (see above).

To complete the title block the following iProperties of the drawing must be filled in:

iProperties Tab	Property naam	Application in the drawing (IDW)
Custom	BUR_0 t/m_5	“Bureau”
	DATUM_0 t/m_5	“Datum”
	INST_BEH	“Installatiebeheer”
	OMSCHR_WIJZ_1 t/m_5	“Omschrijving van de wijziging”
	OPM_0 t/m_5	“Opmerkingen”
	PROJ_TEKNR	Inventor Projectnumber
	SCHAAL	Scale of the drawing
	TEL_NR	“Tel.” (installatiebeheer)
	TITEL_1 t/m_8	Line 1-8 of description

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	VER_0 t/m _5	Name of the Corus responsible person
	WIJZ_1 t/m _5	Revision numbers

If applicable, revision descriptions must be filled in by means of the Custom iProperties of the drawing.

INVENTOR PROJECTNUMMER: IDW-Proj_Teknr INSTALATIE BEHEER IDW-Inst_Beh TEL IDW-Tel_Nr BUREAU Datum GETEKEN/GEVERBANT/VOORDELIJKE OPMERKINGEN WIJZ	IDW-omschr_wijz_5	IDW-BUR_5	IDW-Datum	IDW-Ver_5	IDW-Opm_5	IDW-WIJZ_1 t/m 5	IDW-Titel_1	SCHAAAL ORG IDW-Schaal REG. METHODE TATA STEEL IPT/IAM-Partnumber BLAD 1 / 1 A3
	IDW-omschr_wijz_4	IDW-BUR_4	IDW-Datum	IDW-Ver_4	IDW-Opm_4		IDW-Titel_2	
	IDW-omschr_wijz_3	IDW-BUR_3	IDW-Datum	IDW-Ver_3	IDW-Opm_3		IDW-Titel_3	
	IDW-omschr_wijz_2	IDW-BUR_2	IDW-Datum	IDW-Ver_2	IDW-Opm_2		IDW-Titel_4	
	IDW-omschr_wijz_1	IDW-BUR_1	IDW-Datum	IDW-Ver_1	IDW-Opm_1		IDW-Titel_5	
	IDW-BUR_0	IDW-Datum	IDW-Ver_0	IDW-Opm_0	00		IDW-Titel_6	
							IDW-Titel_7	
							IDW-Titel_8	
							IPT/IAM-Description	

3.4.3 Mono system

For part drawings the so called “mono system” must be used. Per drawing only one 3D part or assembly may be referenced.

3.4.4 Use of Sheets

Between drawing file (IDW) and part file (IPT) or assembly (IAM) there must be a one to one relationship. If it’s necessary to make more than one drawing of a part (or an assembly), multiple sheets must be used within the same drawing file. The use of multisheet A0 and A1-size drawings must be limited as much as possible.

3.4.5 Bill Of Material / Part list

The bill of material / part list must be filled by means of the specific functionality for this purpose available in Inventor.

3.4.6 Obsolete drawings

Drawings that become obsolete as a result of change of the project must be supplied with a so-called “Vervallen”- stamp, and must be delivered considering the naming conventions of this.

The “Vervallen”-stamp is available as sketched symbol in the Tata Steel template.



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4 Templates

4.1 General

- All Inventor models and drawings must be produced on the basis of the Corus supplied templates.
- Tata Steel templates are provided with Custom iProperties for the purpose of filling the title block and bill of material of the drawing.
- Existing styles in the templates must not be changed. Additions are allowed.

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5 Nomenclature of folders and files

5.1 Project (-folder)

An Inventor project must get a Tata Steel drawing number and revision number.

- Project name : <drawing number(6 dig)>-<revision number(3 dig)>.ipj
- Folder name : <drawing number>-<revision number>
- Example :\\A12345-001\....

5.2 3D model

- The folder structure of the 3D model is free.
- For smaller projects a simple structure of folder per kind of file (parts, assemblies) must be used preferably. For bigger projects a structure in conformity with the installation structure must be used preferably.
- Filename : parts : <drawing number(6 dig)>.ipt
: assemblies : <drawing number(6 dig)>.iam
- No revision number in the file name.
- Example:

		Corresponding 2D drawing (rev. xxx)
Part	C12345.ipt	C12345-xxx.idw
Assembly	C87654.iam	C87654-xxx.idw

5.3 Drawings

- All drawings of the entire project must be located in one folder, named Drawings, at the highest level in de project folder (...\\<project folder>\Drawings).
- Drawings must be supplied in IDW-format.
- File name : <drawing number(6 dig)>-<revision number (3 dig)>.idw
- Each drawing changed or (newly) added during revision XXX (of the project) must get revision number XXX as well, regardless of the previous revision number of the drawing involved.

5.3.1 Obsolete drawings

- Drawings that become obsolete as a result of change of the project must be delivered with the change concerned, with the same revision as the project.
- The file name of an obsolete drawing must be extended with “-VV”:
<drawing number(6 dig)>-<revision number (3 dig)>-**VV**.idw

5.4 Weldment Assemblies

- File name of the weldment assembly: <drawing number(6 dig)>.iam
- Parts from which the weldment assembly is composed of:
- <drawing number(6 dig)>-WELD<number (2 dig)>.ipt
- (with the same drawing number as the weldment assembly)

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		Corresponding 2D drawing (rev. xxx)
Weldment assembly	C98765.iam	C98765-xxx.idw
Part	C98765-WELD01.ipt	No drawing
Part	C98765-WELD02.ipt	No drawing
Part	C98765-WELD03.ipt	No drawing

5.5 Content Center Files

All Content Center Files of the entire project must be located in one folder, named Content Center Files, at the highest level in de project folder (...\<>project folder\<>\ Content Center Files).

5.6 Third party items

All Inventor files of vendor parts must be located in a folder, named Supplier, at the highest level in de project folder (...\<>project folder\<>\ Supplier).
A breakdown by supplier name is allowed.

5.7 Presentations

All presentation files of the project must be located in a folder, named Presentations, at the highest level in de project folder (...\<>project folder\<>\ Presentations).
A breakdown by subject is allowed.

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6 References

The following references are made in this Technical Directive:

- R1 05 80 01: Drawing regulations for Tata Steel IJmuiden

7 Statement

Version 5.0:

- Allowed version of Inventor updated.
- This version replaces all previous versions of this technical directive.

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