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Dependence on/from other documents	Replaced by
	Supplier
Working processes Planning, design, purchasing, operation and maintenance	Supplier's document number
Keywords Instruction, code of practice, document header, drawing	Supplier's reference designation

Document history

Revision	Date	Signature	Comments
01	2005-09-19	HARE	Instruction approved
30	2013-04-05	KLKEHU	Number of signs in KOPPLINGSRAD changed, revision comment updated.
31	2016-01-26	KLKEHU	Descriptive data fields in the document header for drawing complemented with – 09 for Narvik
32	2017-10-10	EVAOLO	General revision
10	2006-02-16	LS	Data field date, information added
11	2006-03-24	LS	Technical area S revised
12	2006-03-28	LS	Revision of text in drawing heading
13	2006-04-06	LS	Revision
14	2006-04-12	LS	Text added on page 4
15	2006-05-11	LS	Lower-case types changed to upper-case in box for Status and Other relations
16	2006-06-08	LS	Technical area S in drawing heading revised
17	2006-11-23	MLPRJO	Clarification for e.g. Plant reference marking on page 8.
18	2006-11-24	KLKEHU	New PDF
19	2006-12-20	MLPRJO	Definitions added
20	2007-01-19	LS	Revised because each Operational loc. has a Terminology list for drw. / doc. heading.
21	2007-06-25	MLPRJO	Technical area F= Fire protection documentation added, Technical area S example revised, Clarification Document status *, Correction Other relations is to be designated Plant reference codes respectively Individual codes, Reference LKT 1500.140.003 added
22	2007-11-28	MLPRJO	Clarification regarding the use of letters for revision comments
23	2008-04-09	KLKEHU	Revision page 5,5,7 change Data field maximum number.
24	2008-04-28	MLPRJO	Correction Technical area, T=Type drawings
25	2008-08-26	KLKEHU	Revision of document headers; page 4, 5, 6
26	2010-12-08	MLPRJO	Inserted clarification for field "Supplier". Removed reference LKT 1500.100.014
27	2010-12-21	MLPRJO	Contents of LKT 1500.130.003 transferred to this instruction. Rev. of references
28	2012-07-13	KLKEHU	Older drawings with letters for revisions continue with them until the revision reaches Z, next revision will be 27.
29	2013-01-03	MLPRJO	Added reference: standard SS 32266:2008

Translation

This document is a translation from Swedish of LKAB Technical Instruction LKT 1500.130.001. In the event of disagreement concerning the interpretation and content of this text, the Swedish version shall have priority.

Latest revision

The latest revision of this instruction can be obtained from e-mail address: tekadm.krn@lkab.com or tekadm.mbg@lkab.com.

All LKAB LKTs can also be retrieved from <https://www.lkab.com/sv/om-lkab/leverantor/styrdokument-och-mallar/tekniska-anvisningar-lkt/>


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References

EN ISO 7200:2004	Technical product documentation - Data fields in title blocks and document headers
EN 82045-2	Document management - Part 2: Metadata elements and information reference model
SS 32266:2008	Construction documents – Indication of status

References above are not needed for the understanding of this instruction.


LKAB Technical Instructions

LKT 1500.130.007	Terminology list for row 1, 2 and 4 or 5 Kiruna works (Only in Swedish)
LKT 1500.130.009	Terminology list for row 1, 2 and 4 or 5 Malmberget works (Only in Swedish)
LKT 1500.130.013	Terminology list for row 1, 2 and 4 or 5 Svappavaara works (Only in Swedish)
LKT 1500.130.015	Terminology list for row 1, 2 and 4 or 5 Luleå works (Only in Swedish)
LKT 1500.130.017	Terminology list for title block row 1, 2 and 4 or 5 for Type objects (Only in Swedish)
LKT 1500.140.002	Drawing forms, General
LKT 1500.140.003	Drawing forms, Document list (Only in Swedish)
LKT 1500.140.012	Drawing forms for electrical work
LKT 1500.140.017	Drawing forms for telecom, fire (Only in Swedish)
LKT 1500.180.001	Plant reference coding, General section (Only in Swedish)
LKT 1500.180.003	Plant reference coding Kiruna works (Only in Swedish)
LKT 1500.180.005	Plant reference coding Svappavaara works (Only in Swedish)
LKT 1500.180.007	Plant reference coding Malmberget works (Only in Swedish)
LKT 1500.180.009	Plant reference coding Luleå works (Only in Swedish)
LKT 1500.180.025	Registration of type objects (Only in Swedish)

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Definitions

Drawing <i>Ritning</i>	Document intended to provide information on the (planned or present) product's design, manufacture, operation and maintenance.
“As built” drawing <i>Relationsritning</i>	The document status of drawing showing real execution, as built.
Manufacturing drawing <i>Arbetsritning</i>	The document status of drawing used to produce / build after, a construction and / or contractual document.
Tender document <i>Förfrågningsunderlag</i>	The document status of drawing used as a basis for procurement.
Drawing for review <i>Granskningsritning</i>	The document status of drawing submitted for review.
Preliminary copy <i>Förhandskopia</i>	The document status of drawing that is preliminary.
Type object	Object, design or design element in standardized design that frequently are used in the plants / equipment (that are not attributable to a specific part of the plants.)
Type drawing	Drawing showing a standardized form of a design or a design element / detail, where the same technical solutions are frequently used in the plants / equipment and can not attributed to a specific part of the plants. For example, part or component for a conveyor, feeders, hoisting equipment, vehicles, etc.

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Background and purpose

It is very important to be able to unambiguously identify drawings connected with a plant. It is primarily a security matter that the drawing is correct, relevant and also available during different work processes. In order to be able to identify as well as facilitate the search for a drawing, the title block must be filled in with relevant text.

This instruction describes the positioning of the metadata on the drawing title block, as well as where these metadata can be found.

The instruction refers to drawings in general and also for electrical and type drawings. For type drawings it generally applies that objects used in several places in the plant, must be type registered.

LKAB's requirements, application and interpretation


LKAB strives to follow international standards as much as possible and in our Technical instructions, called LKTs, the company's specific requirements and interpretations of standards are precisely defined. The instructions also express the company's experience as well as giving information on LKAB's choice of alternative solutions within standards.

LKAB can also state requirements that are higher than those found in standards. By following this instruction, LKAB's requirements are fulfilled.

LKAB's document manager is adapted to read metadata from the forms. It is therefore important that information is filled out into the intended data field.

None of the forms are to be "exploded".

The contents of locked cells may not be modified or erased.


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Identifying data fields in title blocks for drawings				
Field	Max. Number	Obligatory	Each page	Comment
Company/owner	See comment	Yes	Yes	LKAB's logotype
Drawing Number	See comment	Yes	Yes	Drawing number obtained through the LKAB technical administration
Supplier's drawing number	40 characters (1)	No	No	If the supplier wants a reference to his own drawing number
Supplier	40 characters (1) upper-case	Yes	No	Supplier's name. (Any logotype must meet LKAB's specific requirements in the field "Supplier" below)
Sheet number	10 characters (1)	Yes	Yes	Mark with the number 1 even if there is only one sheet.
Next sheet	10 characters (1)	Yes	Yes	Mark with a dash if there is no continuation.
Revision comment	See comment	Yes, when reviewing, the project revision note must also be included on delivery	Yes, at revision	Revisions should always be denoted with a minimum of two digits. (Letters on older drawings) The revision comment may never be changed to a lower value, regardless of what adjustments have been made to the drawing. (Reference SS 32266:2008). Older drawings with letters for revisions continue with them until the revision reaches Z, next revision will be 27.
Date	10 characters	Yes	Yes	To be denoted YYYY-MM-DD. States the drawing creation date. NOTE: Date MAY NOT be changed at redrawing / scanning

(1) Maximum number refers to the maximum number of characters that are approved by LKAB's document management system.

Descriptive data fields in title blocks for drawings				
Field	Max. Number	Obligatory	Each page	Comment
Row 1 Plant	See comment, Use upper-case	Yes	Yes	Select from Terminology list LKT 1500.130.007, -009, -013, -015,-019 depending on the works (operational location) referred to.
Row 2 Part of plant/functional part	See comment, Use upper-case	Yes	Yes	Use LKT according to the above as a guide when selecting appropriate text.
Row 3 Free text	40 characters (1) Use upper-case	Yes	Yes	State what the drawing illustrates overall. See example on page 9
Row 4 Free text	40 characters (1) Use upper-case	No	No	State what the drawing illustrates in more detail. See example on page 9
Row 5 Type of drawing	See comment, Use upper-case	Yes	Yes	Select from the same Terminology list as for Row 1 and 2.

Note: Each project is responsible for developing detailed instructions for the data fields above, with examples. Use Swedish designations in the title block, the English translation is for your information only.

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Administrative data fields in drawing title block				
Field	Max. Number	Obligatory	Each page	Comment
Designed by	6 characters, Use upper-case	Yes	Yes	Signature
Drawer	6 characters, Use upper-case	Yes	Yes	Signature
Approved by	6 characters, Use upper-case	Yes	Yes	Signature
Checked by	6 characters, Use upper-case	Yes		Signature
Scale	10 characters (1)	No	No	State main scale only
Document status *	See comment Use upper-case	Yes	Yes	RELATIONSRITNING "As built" drawing ARBETSRITNING Manufacturing drawing FÖRFRÅGNINGSUNDERLAG Tender document GRANSKNINGSRITNING Drawing for review FÖRHANDSKOPIA Preliminary copy
Original format	See comment			A1, A3, A4

* Document status "Bygghandling" and "Preliminär handling" in Swedish standard SS 32266:2008 is equivalent to "Manufacturing drawing" respectively "Drawing for review" in this instruction.

LKAB's specific requirements in addition to those stated above

Form Electrical sheet 2 Descriptive data fields in title blocks for drawings				
Field	Max. Number	Obligatory	Each page	Comment
Function	40 characters (1) Use upper-case	No	No	Enter the function of what is shown. e.g. BEARING LUBRICATION 00TR015 (use Swedish designations)
Item/ Circuit	40 characters (1) Use upper-case	No	No	Enter an area-oriented item designation according to LKT 1500.180.019 or a instrument circuit number according to LKT 1500.180.021
Revision comment	See comment	Yes, at revision	Yes, at revision	Revision note is filled at the revision of the sheet. Note: Two fields must be filled in. Revision number is retrieved from sheet No. 1
Change	See comment	Yes, at revision	Yes, at revision	Describe the change in detail
Date	See comment	Yes, at revision	Yes, at revision	States the drawing revision date. To be denoted YYYY-MM-DD.
Inserted by	6 characters, Use upper-case	Yes, at revision	Yes, at revision	Signature
Company	See comment	Yes, at revision	Yes, at revision	Company name


(1) Maximum number refers to the maximum number of characters that are approved by LKAB's document management system.

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Type drawing Descriptive data fields in title blocks for drawings				
Field	Max. Number	Obligatory	Each page	Comment
Row 1 Head group	See comment Upper-case	Yes	Yes	Select from Terminology list LKT 1500.130.017
Row 2 Middle group	See comment Upper-case	Yes	Yes	Select from Terminology list LKT 1500.130.017. Text is preceded by the current letter
Row 3 Under group	40 tecken (1) Upper-case	Yes	Yes	Select from Terminology list LKT 1500.130.017. Text is preceded by the current two digits.
Row 4 Free text	40 tecken (1) Upper-case	No	No	State what the drawing illustrates.
Row 5 Type of drawing	See comment Upper-case	Yes	Yes	Select from Terminology list LKT 1500.130.017.

For each object, a document list must be drawn up according to LKT 1500.140.003 specifying included documents.

LKAB's specific requirements in data fields in drawing title block				
Field	Max. Number	Obligatory	Each page	Comment
Plant reference code	See comment	No	No	State an object shown on the drawing. Even in Technical area K when possible. Use no spaces in the plant reference code. The plant reference code should be listed in its entirety i.e. 9 to 15 characters. NOTE: USE UPPER-CASE
Replaces drawing No.	40 characters (1)	No	No	For LKAB drawing numbers only
Replaced by	40 characters (1)	No	No	For LKAB drawing numbers only
Technical area	See comment	Yes	Yes	E = Electrical, telecom, evacuation alarm F = Fire-protection documentation (Fire) Examples for F: escape route, fire cell limits, Placement of; fire-fighting appliances, fire shutters, flammable substance (not for fire and evacuation alarm and the like.) K = Construction, architectural M = Mechanical, machinery V = HVAC Heating, vent. and sanitation The field may also enter drawing type; T =Type drawing S = Comprehensive flow chart drawing, Examples for S: Flow chart showing entire areas / plants. The drawing shows a schematic overview of an area, process, roads, etc., may contain images. Is not used for diagrams bound to a technical area, i.e. hydraulic diagrams, fresh water diagrams, etc.
Supplier's reference	40 characters (1)	No	No	Assignment number
LKAB reference	40 characters (1)	No	No	Assignment number


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LKAB's specific requirements in data fields in drawing title block					
Field	Max. Number	Obligatory	Each page	Comment	
Other relations <u>Plant reference coding</u> KOPPLINGR1 KOPPLINGR2 KOPPLINGR3 KOPPLINGR4 <u>Drawing/document number</u> KOPPLINGR5 KOPPLINGR6 KOPPLINGR7 <u>Individual codes</u> KOPPLINGR8 KOPPLINGR9	40 characters (1) 40 characters (1) 40 characters (1) 40 characters (1) 40 characters (1) 40 characters (1) 40 characters (1) 40 characters (1) 40 characters (1)	No	No	State Plant reference code, in addition to the main object. Drawing number with connection to the drawing. E.g. reference to a main layout drawing, assembly drawing, etc. Document number refers technical documents with connection to the drawing such as technical descriptions, calculations, etc. Drawing number inserted in the Item list should not be noted here. An individual code refers to objects that are individual coded. Separate with commas when there are many on the same row.	
Supplier	40 characters (1)	Yes	No	Enter company name through the dialogue box. In this field no references to client, project or similar are allowed. Logo is not allowed. Exception: The logotype may only be permitted if it meets the following criteria: The logotype may not be an inserted image . It must be drawn, i.e. made with the CAD program. The geometry of the logotype must be placed in the same level as the drawing head. At printing or generation of PDF, the logotype is printed in black and white. Supplier logotype is only allowed in the designated area.	

(1) Maximum number refers to the maximum number of characters that are approved by LKAB's document management system.

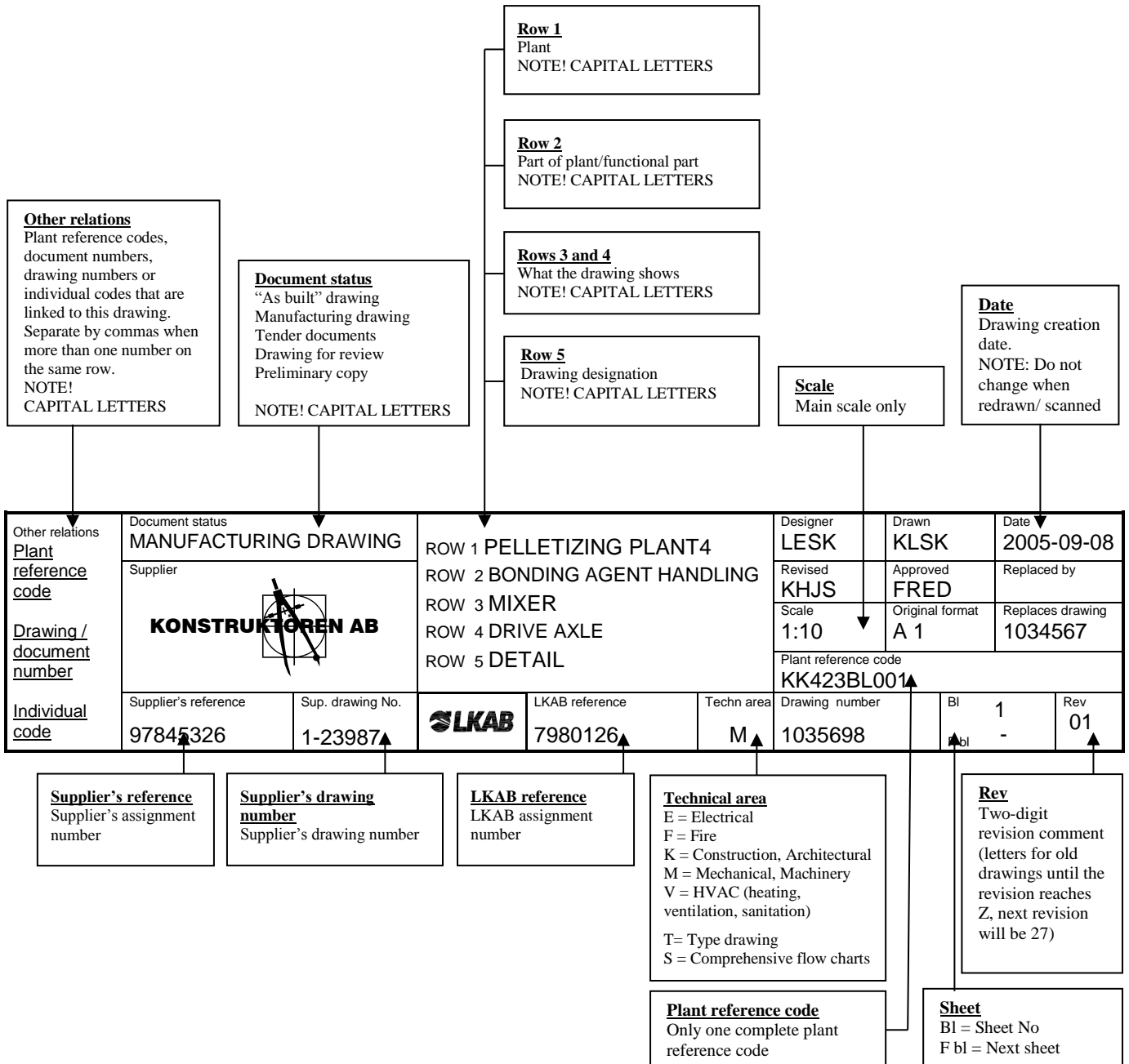
Other relations

In this box drawing and document number, plant reference codes and / or individual codes are stated that have reference to the drawing. For example, references to a main layout, a plant reference code, if there is more than one object in the drawing and to side documents such as a technical description, calculation, etc.
Drawing number inserted in the Item list should not be written into the box for other relations.


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Example

Note! Use Swedish designation, the English translation is for your information only.



Picture: Example of drawing head for machine, with explanations

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Lennart Skogfält				32	en
				Date	
				2017-10-10	
Approved by	Title			Technical area	
Håkan Renberg	Document heading for drawings			General	
Status	Subtitle			Plant reference code /object	
Approved	General section				

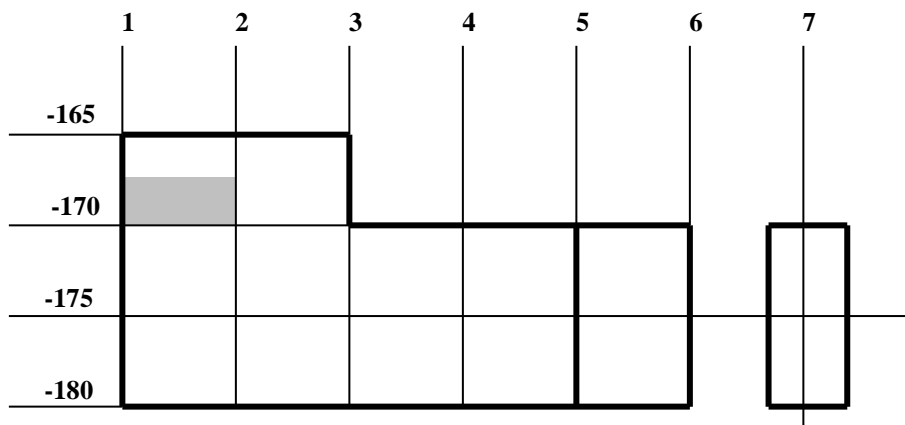
Orientation picture

All drawings that are part of a plant must have an orientation picture drawn above the title block. The orientation picture must show the outline of the plant and surrounding buildings that are part of the main plant.

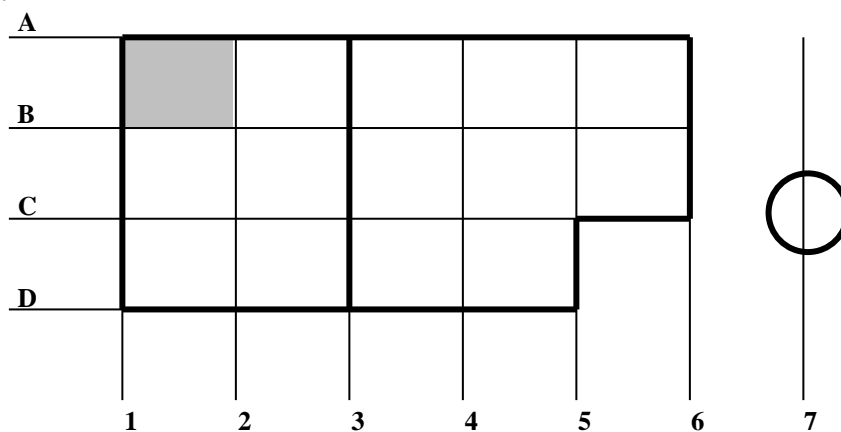
The picture must be drawn so it shows plan and elevation on which the coordinate line of the plant in X- and Y-direction and elevation of each plan is noted. Hatch the part the drawing shows on the orientation pictures plan and elevation. See example below.

Example of orientation picture

Elevation



Plan



Suggestions for improvements

LKAB carries out continual improvements in accordance with the LKAB quality policy (SS-ISO 10006, sections 8.2 and 5.2.7) and this also applies to instructions and codes of practice. Comments and suggested improvements are welcome at the following e-mail address: instructions@lkab.com

The LKAB internal address in Outlook: *SE SM Anvisningar LKT*