

DEK STANDARD ENGINEERING INSTRUCTION

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SPECIFYING LINEAR MOTION PRODUCTS AND ROLLING BEARINGS

DSP 1.1.4

1. Scope

- To specify the approved manufacturers of linear motion products and rolling bearings for use within DEK equipment.
- To describe how linear motion products and rolling bearings should be specified within Glovia, the Parts Register and ProEngineer

2. Applicability

- Any new bearing defined after the first issue date of this document.
- Any major rework of an existing design initiated after the first issue date of this document.
- This DSEI supersedes DSB 1.1.1 & DSB 1.1.2

3. Definitions

Linear Motion Product – Any item which uses balls or rollers to control linear motion. Products within this category include: Linear Guide, Ball Spline, Spline Nut, Linear Bushing, Linear Slide Table, Ballscrew & Leadscrew

Rolling Bearing – Any item which uses balls or rollers to control rotary motion.

4. Approved Manufacturers

4.1 Linear Motion Products

DEK operates a preferred vendor arrangement with manufacturers of this product. Please consult with the UK purchasing department to identify the incumbent supplier(s).

4.2 Rolling Bearings

Whilst many rolling bearings are made to industry standards subtle differences between manufacturers can have an impact on machine performance. For this reason, only bearings manufactured by the following Companies are approved for use in DEK equipment:

FAG

INA

NMB

RHP

SMB

SKF

THK

5. Describing & Specifying Linear Motion Products and Rolling Bearings

5.1 Linear Motion Products

Whilst there are catalogues for this product range, the vast majority of items specified will require a level of customisation to suit a particular application. To ensure that items are clearly specified the following rules must be applied:

- The item must be detailed on a DEK drawing format (see table 5.1.1) to include as a minimum:
 - Manufacturers name and part number
 - A breakdown of the meaning of the manufacturers part number (where appropriate)
 - Details of any non-standard features (where applicable)
 - General overall dimensions
- The manufacturers name or part number must not appear in either the part description or Glovia Text 3
- The product description must conform to the format shown in the Table 5.1.2 below.

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Product Type	Required Drawing Format	Comments
Ball Spline	dek_a0/a1/a2/a3.frm	See example 183376 Issue 02
Ballscrew	dek_a0/a1/a2/a3.frm	See example 193493 Issue 03
Leadscrew	dek_a0/a1/a2/a3.frm	See example 175156 Issue 03
Linear Bushing	spec_sheet.frm	See example 177098 Issue 02 Use dek_a0/a1/a2/a3.frm if modified from standard
Linear Guide	spec_sheet.frm	See example 107311 Issue 06 Use dek_a0/a1/a2/a3.frm if modified from standard
Linear Shaft	dek_a0/a1/a2/a3.frm	See example 163305 Issue 02
Linear Slide Table	spec_sheet.frm	See example 194348 Issue 02 Use dek_a0/a1/a2/a3.frm if modified from standard
Spline Nut	dek_a0/a1/a2/a3.frm	No example available

Table 5.1.1 –Drawing Formats Types

Product Type	Product Description	Example Description
Ball Spline	BALL SPLINE ^{^^}	BALL SPLINE ^{^^}
Ballscrew	LEAD SCREW ^{^^}	LEAD SCREW ^{^^}
Leadscrew	LEAD SCREW ^{^^}	LEAD SCREW ^{^^}
Linear Bushing	BALL BUSHING ^{^^} shaft diameter	BALL BUSHING ^{^^} 20
Linear Guide	LINEAR GUIDE ^{^^} rail width x rail length	LINEAR GUIDE ^{^^} 15 x 157
Linear Shaft	SHAFT ^{^^} diameter tolerance	SHAFT ^{^^} 20 H6
Linear Slide Table	LINEAR TABLE ^{^^}	LINEAR TABLE ^{^^}
Spline Nut	SPLINE NUT ^{^^}	SPLINE NUT ^{^^}

Table 5.1.2 – Linear Motion Product Descriptions

5.2 Rolling Bearings

The part description of a rolling bearing must contain enough information to enable it to be sourced from any of the approved manufacturers. To facilitate this, and to comply with procedure E014, the description must be in the format BEARING^{^^}DSP 1.1.4[^]CODE; where the code is derived from Table 5.2.1.

Example Description

A standard single row radial ball bearing with an internal diameter of 12mm, an outside diameter of 28mm, width of 8mm fitted with shields on both sides would have the following description:

BEARING^{^^}DSP 1.1.4[^]SRRB/12/28/8/ZZ/-

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Bearing Type with associated Code	Single Row Radial Ball	SRRB
	Double Row Radial Ball	DRRB
	Flanged Single Row Radial Ball	FSRRB
	Self-Aligning	SA
	Single Row Angular Contact	SRAC
	Double Row Angular Contact	DRAC
	Four Point Contact	FPC
	Single Row Cylindrical Roller	SRCR
	Full Compliment Cylindrical Roller	FCCR
	Crossed Cylindrical Roller	CCR
	Drawn Cup Needle Roller	DCNR
	Needle Roller	NR
	Spherical Roller	SR
	Single Row Taper Roller	SRTR
	Paired Single Row Taper Roller	PSRTR
	Thrust Ball Single Direction	TBSD
	Thrust Ball Double Direction	TBDD
	Cylindrical Roller Thrust	CRT
	Needle Roller Thrust	NRT
	Spherical Roller Thrust	SRT
	Y-Bearing	YB
	Y-Bearing Unit	YBU
	Track Runner Cam Roller	TRCR
	Track Runner Cam Follower	TRCF
	Track Runner Support Roller	TRSR
Inner Diameter (mm)	The nominal diameter of the inner race	
Outer Diameter (mm)	The nominal diameter of the outer race	
Width (mm)	The width or length of the bearing	
Seal & Shield Type with associated Code	Open bearing. No seals or shields	O
	Single Shield	Z
	Double Shield	ZZ
	Single Seal	RS
	Two Seals	2RS
	Two Low Friction Shields	2RZ
Special	If the bearing is a non-catalogue item this should be identified by entering 'S' in the code. A DEK specification sheet must be issued which sufficiently details the item. For catalogue items enter '-'	

Table 5.2.1 – Rolling Bearing Description Codes

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