

Standard letter

Introduction

The objective of this letter is to cover additional technical specifications, complementing the information already covered in the "SKF Power transmission products" catalogue (publication **6219**) and its online version available on **www.skfpt.com**.

All the SKF Power transmission products are manufactured according to the highest quality standards, making use of all relevant techniques in the manufacturing processes (e.g. SPC – Statistical Process Control), with the guarantee of customer satisfaction as ultimate goal. In addition, complete traceability is ensured through an experienced marking and labelling system, and a quality focused organisation behind each process.

In addition, it is worth emphasizing that all SKF Power transmission products are fully interchangeable with products from other common brands available in the market place.

Please contact your local SKF Authorized Distributor in case of any further questions related to SKF Power transmission products.

SKF Chains

SKF Chains completely conform to international standards (ISO) and other advanced industrial standards (i.e. ANSI and DIN) as shown below:

- Short pitch transmission precision roller chains are manufactured according to **ISO 606-1994, ASME B29.1M-1993 and DIN 8187/DIN 8188**;
- Double pitch precision roller chains for transmission and conveyors are manufactured according to **ISO 1275-1995, ASME B29.3M-1994/AMSE B29.4M-1994 and DIN 8181-2000**;
- Short pitch transmission precision bush chains are manufactured according to **ISO 1395-1997, ASME B29.12M-1997 and DIN 8154/DIN 8164**;
- Steel roller chains/attachments (types S and C) are manufactured according to **ISO 487-1998, ASME B29.19M-1996 and DIN 8169-1997**;
- Conveyor chains/attachments are manufactured according to **ISO 1977-2000, ASME B29.15M-1997 and DIN 8165/DIN 8166/DIN 8167**;

Standard letter

- Heavy duty cranked link transmission chains are manufactured according to **ISO 3512, ASME B29.10M-1997 and DIN 8182**
- Leaf chains are manufactured according to **ISO 4347-1992, ASME B29.8M-1983 and DIN 8152;**
- Welded steel type cranked link drag chains are manufactured according to **ISO 6971-2002 and ASME B29.200-2001;**
- Welded steel type cranked link mill chains are manufactured according to **ISO 6972-2002 and ASME B29.200-2001;**
- Silent chains are manufactured according to **ASME B29.2M-1982 and DIN 8190;**
- Open barrel steel pintle type conveyor chains/attachments are manufactured according to **ASME B29.25M-1994;**
- Oil field chains are manufactured according to **API SPEC 7F-1993;**
- Hollow pin chains are manufactured according to **ASME B29.27M-2001 and DIN 8168;**

Main materials used in the chain construction:

Parts description	Material specification
Side plate	45Mn, 40Cr, 35CrMo Premium carbon steel no. 45
Roller	Premium carbon steel no. 10 Premium carbon steel no. 45
Bush	20Mn Premium carbon steel no. 20
Pin	35CrMo, GCr15, 30CrMnTi, 40Cr, 20CrMnMo

SKF Sprockets

All SKF Sprockets are manufactured according to **ISO606 & ASME B29.100** standard. The sprockets are made from steel material C-45 and premium carbon steel no. 20 on hub material if welded. For some special sprockets gray cast iron HT250 or cast iron 250 material is used. Sprocket teeth can be hardened if requested but this is only valid for sprocket teeth manufactured with steel material C-45. Surface treatment such as black oxide and zinc plating can be offered upon request.

Tolerances are machined according to **DIN 8196**.

All sprockets are completely deburred and protected with rustproof oil.

Standard letter

SKF Belts

SKF Belts are manufactured to a "worldwide" specification, PTP-0299 (Feb 2000), which is compatible with all commonly used standards:

- wrapped and cogged belts are manufactured according to **GB 1171** and **BS 3790**;
- timing belts are in accordance with quality standards **GB/T13487-1992** and **GB/T11616-1989**;
- length and tolerance control of MXL, XL, L, H, XH, XXH profiles are done in accordance with **ISO 5296-1**;
- measurement tolerance testing is done in accordance with **ISO 4184**;
- SKF Belts* are manufactured to be anti-static and as such comply with ATEX directive requirements (static conductivity testing is done in accordance with **ISO 1813**);
- equipment testing is done in accordance with **ISO 255-1990**.

All the belts are manufactured and measured to their "Datum" (Ld), "Pitch" (Lp) or "Working" (Lw) length. (All these definitions are the same and relate to an exact set-width in detailed measurement of pulleys, taking place under a specific load per belt section).

All "V" and wedge belts are manufactured to the SKF own "MACHED SET" tolerances whenever produced, and stay matched, implying they are installed to the relevant "Installation Tension" value, using the correct equipment, and that they are fitted in pulley grooves under reasonable conditions.

It is recommended that new belts should not be mixed with old belts on the same drive. The same is valid for different constructions and different manufacturers' brands.

The "matched set bands" work well in practice, provided belts are tensioned to the tensioning instructions for the general respective belt section/construction. All belts are actually manufactured to the branded size plus/minus a set tolerance, which relates to the "matched-set" tolerance band (most internationally known standards allow a larger deviation from the branded size to the actual measured length).

SKF Belts* are oil and heat resistant within the properties and capabilities of the "Polychloroprene" ("Chloroprene", "Wingprene" and "Neoprene" are other names for the same synthetic oil derived rubber compound), but the belts are not "fire resistant". Recommended ambient temperature range is from -30°C to $+70^{\circ}\text{C}$. Note that belt lifetime will be affected in case these limits are not respected.

Main materials used in "V" and wedge belts:

- Polyester
- Polychloroprene
- Natural Rubber
- SB Rubber (Styrene-Butadiene)
- PB Rubber (Poly-Butadiene)
- Cotton
- Sulphur
- Carbon black
- Plus small quantities of other material

Standard letter

Main materials used in timing belts:

	Classical	HiTD	Metric	Polyurethane metric (T5PU, T10PU, AT5PU, AT10PU)	Polyurethane metric (T5PU, T10PU, AT5PU, AT10PU)
	(MXL, L, H, XH,XXH)	(3M, 5M, 8M, 14M)	(T2.5, T5, T10, T20, AT5, AT10)	Truly Endless	Open Ended
Tensile member (cord)	Fiberglass	Fiberglass	Fiberglass	Steel Cord / Kevlar Cord	Steel Cord / Kevlar Cord
Tooth compound	CR	CR	CR	Polyurethane	Polyurethane
Tooth facing fabric	Nylon	Nylon	Nylon	no fabric	Nylon available
Backing fabric	CR	CR	CR	no fabric	Nylon available

Belts could be stored for 12 (twelve) years without affecting expected working life if the storage is done in optimum conditions.

SKF Belts* are branded as shown in below picture:



Examples

B 1460 => section B + pitch length 1460 mm

B 56 => section B + inside length 56 inches

* except SKF Cogged Raw Edge Belts

SKF Pulleys

Classical and trapezoidal inch pitch timing pulleys (MXL, XL, L, H, XH, XXH) are manufactured according to **ISO 5294**.

Metric pitch series timing pulleys (T/AT) are manufactured according to **DIN 7721**.

All SKF V-belt Pulleys are manufactured to the standards **ISO 4183**, **DIN 2211**, **ANSI Narrow V-belt pulley IP-22** and the **ANSI Classical V-belt pulley IP-20**.

They are interchangeable with type SPA, SPB, SPC and SPZ. The pulleys are made from cast iron G3000 (GG) to American standard "**SAEJ431AVG96**".

Following are the requirements of G3000:

- Tensile strength $\geq 207\text{Mpa}$
- Hardness $\geq \text{HB } 187\text{-}241$
- Chemical composition C 3,1-3,4 %, Si 1,9-2,3 %, Mn 0,6-0,9 %, S $\leq 0,15$ %, P $\leq 0,15$ %

After being machined, pulleys are phosphatised and treated with rustproof oil.

All pulleys are statically balanced to 6.3 according to **ISO 1940**. After balanced the pulleys are suitable for the linear speed of not more than 35m/sec. Dynamic balancing can be provided on request. SKF can issue a certificate stating that all pulleys are dynamically balanced in case of a special customer request.

Standard letter

SKF Couplings

SKF Flex-, Chain-, FRC-, Jaw Couplings and Universal Joints are manufactured according to established market standards and are fully interchangeable with other brands:

- Metric bore keyway machined according to **BS 4231:Part 1** and **DIN 6885**;
- British imperial bore keyway machined according to **BS 46:Part 1**; and
- American imperial bore keyway machined according to **ASME B17.1**.

SKF Grid, Gear and Rigid couplings are manufactured according to established industrial standard, which is acceptable throughout the world.

Parts description	Material specification
SKF Flex coupling SKF Flex Spacer coupling	Flange in grey cast iron HT250; tyre available in nitrile or chloroprene (FRAS); rubber and spacer in grey cast Iron HT250.
Chain coupling	Flange in premium carbon steel no. 45 and cover available in aluminium and plastic.
FRC coupling	Flange in grey cast iron HT250 and elements available in nitrile or chloroprene (FRAS) rubber.
Jaw coupling	Flange in grey cast iron HT250; spacer in aluminium and insert available in nitrile, urethane and hytrel.
Grid coupling	Hub in steel SM45C equivalent to AISI 1045; grid member in spring steel SW-C; horizontal split cover in aluminium ALDC 7 and vertical split cover steel SS 330.
Gear coupling	Sleeve and hub in steel SM45C equivalent to AISI 1045.
Rigid coupling	All components manufactured in grey cast iron HT250.
Universal Joint	Premium carbon steel.

SKF Gear Couplings are interchangeable, half to half, to industries standard using **AGMA bolt pattern**.

Every coupling is protected by a specific treatment, which depends on the material or type of packaging: (1) phosphate coating, (2) blackening, (3) spray painting or (4) anti-corrosion oil.

SKF Bushings and Hubs

SKF Taper Bushings, QD Bushings, Weld-on and Bolt-on Hubs are manufactured according to established market standards and are fully interchangeable with other brands.

Metric bore keyway machined according to **BS 4235: Part 1** and **DIN 6885**.

Imperial bore keyway machined according to **BS 46: Part 1**.

Material use:

- Taper bushing – grey cast iron HT250
- QD bushing – grey cast iron HT250
- Weld on hubs – premium carbon steel 20 (C20)
- Bolt on hubs – grey cast iron HT250

Phosphate coating and blackening are used to improve corrosion resistance.

