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# Flat Root Side Fit Involute Spline Dp 30 Pa Continued

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Flat Root Side Fit Involute

Tolerances (for ANSI standard) dialog box |  
Inventor ...

Involute Splines | Hayes Broaching Service

Involute Spline Engineering Drawing Data |  
Engineers Edge ...

Flat Root Side Fit, Involute Spline DP, 30° PA  
(continued)

Internal and external spline teeth | gears |  
Internal and ...

Involute Spline ANSI B92.1 Equations and Design

...

SPLINES AND SERRATIONS - Autodesk

Involute Splines - Sep/Oct 1990 Gear Technology

Technical Gear Info | Omni Gear & Machine Corp.

Pin measurements for involute splines - The  
Home Shop ...

Spline Cutting Machines and Hobs - Koepfer  
America

Inside Splines | Gear Solutions Magazine Your  
Resource to ...

W N 4

Splined Shafts and Bushings - Flat-root, side-fit -  
Fillet ...

# A Brief Overview Of Splines | Gear Solutions Magazine Your ...

*Flat Root  
Side Fit  
Involute  
Spline Dp 30 Pa Continued* Downloaded from  
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## STOKES CHURCH

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Flat Root Side Fit  
Involute Flat Root Side Fit Involute Fillet-root, side-fit: This type of splined shaft promotes a full radius in the trochoid area between the teeth on both the male and female members. This full radius is tangent to the involute sides of adjacent teeth, providing maximum strength and durability. Splined Shafts and Bushings - Flat-root, side-fit - Fillet ... Flat Root Side Fit, Involute Spline ASA B5.15-1950 ANSI B92.1-1970 Diam. No. Approx. Whole Whole Pitch Teeth Stroke Depth Series Depth

Series 8/16 11 1-3/4  
.1395 K5L30-08-11  
.147 K7L30-08-11 8/16  
12 4 .1395  
K5L30-08-12 .147  
K7L30-08-12 8/16 12  
4-3/4 .1395  
K5L30-08-12L .147  
K7L30-08-12L 8/16 14  
3 .1395 K5L30-08-14  
.147 K7L30-08-14 Flat  
Root Side Fit, Involute  
Spline DP, 30° PA  
(continued) Involute  
splines are available in  
several different  
pressure angles: 30  
degrees, 37.5 degrees,  
and 45 degrees. The  
30-degree splines are  
by far the most  
common, so that is  
what will be considered  
here. Splines are made  
with either a fillet root  
or a flat root at the  
interface of the tooth  
flank and the root  
diameter. A Brief

Overview Of Splines |  
Gear Solutions  
Magazine Your  
...Involute Spline ANSI  
B92.1 Equations and  
Design. In general  
manufacturing external  
splines is facilitated  
either by hobbing,  
rolling, or on a gear  
shaper, and internal  
splines either by  
broaching or on a gear  
shaper. The internal  
spline is held to basic  
dimensions and the  
external spline is  
varied to control the  
fit. Involute Spline ANSI  
B92.1 Equations and  
Design ...Diameter fits  
are possible with  
involute flanks for  
systems having great  
numbers of revolutions  
at high speeds. That  
necessitates more  
precise centering and  
reduced runout. In  
practice, these fits are  
rarely used. Side fit  
splines with in-volute

flanks are in the  
majority and offer the  
biggest range of use.  
Diameter fit. Both  
torque transmission  
and centering  
are involute splines -  
Sep/Oct 1990 Gear  
Technology Involute  
splines come in several  
varieties: Flat root side  
fit, fillet root side fit,  
and major diameter fit.  
The flat root side fit  
has a slightly larger  
minor diameter (male)  
and smaller major  
diameter (female) than  
the fillet root spline.  
The transition area  
between the side of  
the tooth (male) or  
space (female), and  
the corresponding  
minor diameter (male)  
or major diameter  
(female) exhibits a  
smaller radius than in  
the fillet root  
spline. Inside Splines |  
Gear Solutions  
Magazine Your

Resource to ...a) The external major diameter, unless chamfered or reduced, may interfere with the internal form diameter on flat root side fit splines. Internal splines made to the 1957 and 1960 standards had the same dimensions as shown for the major diameter fit splines in this standard. Involute Spline Engineering Drawing Data | Engineers Edge ...These connections can be “sliding” or “fixed”, and with “centering” on the tooth flanks or on the external diameter of the axle (tooth tip) or on the inner diameter. The involute spline connections are similar to the classic teeth for gears, with a pressure angle of 20° or 30° depending on the standard used. Internal

and external spline teeth | gears | Internal and ...Involute Splines: Old American Standard; ANSI B92.1970 – Flat Root Major Diameter Fit; Fillet Root Side Fit & Flat Root Side Fit; ANSI B92.1-1970 Formulas for the Basic Dimensions 30°, 37.5°, & 45°PA; ANSI B92.1-1970 Maximum Tolerance for Space Width & Tooth Thickness of Tolerance Class 5 Splines; Ansi B92.1-1970 Interchangeability Technical Gear Info | Omni Gear & Machine Corp. If you do not see the tool required to produce the part you need, don't worry we can rent or purchase additional tooling for what ever customer needs arise. We look forward to speaking with you about your

internal involute  
broaching  
needs. Involute Splines  
| Hayes Broaching  
Service Fillet Root  
Splines are those in  
which a single fillet in  
the general form of an  
arc joins the sides of  
adjacent teeth. Flat  
Root Splines are those  
in which fillets join the  
arcs of major or minor  
circles to the tooth  
sides. Fig. 1a. Lead  
Variation Fig. 1b.  
Parallelism Variation  
Fig. 1c. Alignment  
Variation Reference  
Axis Center Lines of  
Teeth Reference  
Axis SPLINES AND  
SERRATIONS -  
Autodesk measurement  
and stresses for SAE  
Involute Splines  
according to ANSI  
B92.1 and ANSI  
B92.1b. WN4 uses  
imperial units; metric  
units are supported as  
well. The program was

designed to calculate  
spline fit types "Flat  
Root Side Fit" and  
"Fillet Root Side Fit" as  
well as "Major  
Diameter Side Fit".  
Pressure angle can be  
30°, 37.5° or 45°.  
Normal ... W N 4 Is your  
spline Fillet Root Side  
Fit, Flat Root Side Fit or  
Flat Root Major  
Diameter Fit? What is  
the Pressure Angle of  
your Spline? What is  
the Pressure Angle of  
your Spline? Usually  
30°, but may be 20°,  
37.50°, or 45°. This can  
effect Pin Diameter  
selection, the  $1.92/P = 0.1600$ " is for 30°  
Pressure Angle. Pin  
measurements for  
involute splines - The  
Home Shop ... National  
Standard for involute  
splines, the side fit,  
and the major  
diameter fit.  
Dimensional data for  
flat root side fit, flat

root major diameter fit, and fillet root side fit splines are tabulated in this standard for 30-degree pressure angle splines; but for only the fillet root side fit for 37.5- and 45-degree pressure angle splines. Tolerances (for ANSI standard) dialog box | Inventor ... Side-fit involute splines may have a flat-root or fillet-root form. A flat-root ramp on the hob tooth profile will generate a chamfer on the tooth to provide clearance at the major diameter between the external and internal mating teeth. A fillet-root spline hob has a smooth radius so as not to generate a hard chamfer on the spline teeth tips. Spline Cutting Machines and Hobs - Koepfer America Flat Root, Side Fit Involute Spline

Single Thread, Right Hand Non-Chamfering  
 2.5/5 4 4 1-1/4 .442  
 H5N30-250 .470  
 H7N30-250 3/6 4 4  
 1-1/4 .3687 H5N30-300  
 .3917 H7N30-300 ...  
 DP, 30° PA Spline Hobs  
 5/8" dia. drive ends.  
 Title: PART A 1-30  
 Author: pmarko  
 Subject: PART A 1-30  
 Created Date:  
 Involute splines are available in several different pressure angles: 30 degrees, 37.5 degrees, and 45 degrees. The 30-degree splines are by far the most common, so that is what will be considered here. Splines are made with either a fillet root or a flat root at the interface of the tooth flank and the root diameter.  
*Tolerances (for ANSI standard) dialog box | Inventor ...*

Fillet-root, side-fit: This type of splined shaft promotes a full radius in the trochoid area between the teeth on both the male and female members. This full radius is tangent to the involute sides of adjacent teeth, providing maximum strength and durability.

Flat Root Side Fit

Involute

[Involute Splines |](#)

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National Standard for involute splines, the side fit, and the major diameter fit.

Dimensional data for flat root side fit, flat root major diameter fit, and fillet root side fit splines are tabulated in this standard for 30-degree pressure angle splines; but for only the fillet root side fit for 37.5- and 45-degree pressure angle splines.

## **Involute Spline Engineering Drawing Data | Engineers Edge ...**

Is your spline Fillet Root Side Fit, Flat Root Side Fit or Flat Root Major Diameter Fit?

What is the Pressure Angle of your Spline?

What is the Pressure Angle of your Spline?

Usually 30°, but may be 20°, 37.50°, or

45°. This can effect Pin Diameter selection, the  $1.92/P = 0.1600$ " is for 30° Pressure Angle.

[Flat Root Side Fit, Involute Spline DP, 30° PA \(continued\)](#)

Involute splines come in several varieties: Flat root side fit, fillet root side fit, and major diameter fit. The flat root side fit has a slightly larger minor diameter (male) and smaller major diameter (female) than the fillet root spline. The

transition area between the side of the tooth (male) or space (female), and the corresponding minor diameter (male) or major diameter (female) exhibits a smaller radius than in the fillet root spline.

Internal and external spline teeth | gears | Internal and ...

Diameter fits are possible with involute flanks for systems having great numbers of revolutions at high speeds. That necessitates more precise centering and reduced runout. In practice, these fits are rarely used. Side fit splines with in-volute flanks are in the majority and offer the biggest range of use. Diameter fit. Both torque transmission and centering are

**Involute Spline ANSI**

## **B92.1 Equations and Design ...**

Flat Root, Side Fit  
 Involute Spline Single Thread, Right Hand  
 Non-Chamfering 2.5/5  
 4 4 1-1/4 .442  
 H5N30-250 .470  
 H7N30-250 3/6 4 4  
 1-1/4 .3687 H5N30-300  
 .3917 H7N30-300 ...  
 DP, 30° PA Spline Hobs  
 5/8" dia. drive ends.

Title: PART A 1-30

Author: pmarko

Subject: PART A 1-30

Created Date:

## **SPLINES AND SERRATIONS -**

### **Autodesk**

Flat Root Side Fit,  
 Involute Spline ASA  
 B5.15-1950 ANSI  
 B92.1-1970 Diam. No.  
 Approx. Whole Whole  
 Pitch Teeth Stroke  
 Depth Series Depth  
 Series 8/16 11 1-3/4  
 .1395 K5L30-08-11  
 .147 K7L30-08-11 8/16  
 12 4 .1395  
 K5L30-08-12 .147



K7L30-08-12 8/16 12  
4-3/4 .1395  
K5L30-08-12L .147  
K7L30-08-12L 8/16 14  
3 .1395 K5L30-08-14  
.147 K7L30-08-14

**Involute Splines -  
Sep/Oct 1990 Gear  
Technology**

These connections can be “sliding” or “fixed”, and with “centering” on the tooth flanks or on the external diameter of the axle (tooth tip) or on the inner diameter. The involute spline connections are similar to the classic teeth for gears, with a pressure angle of 20° or 30° depending on the standard used.

[Technical Gear Info | Omni Gear & Machine Corp.](#)

Fillet Root Splines are those in which a single fillet in the general form of an arc joins the sides of adjacent teeth.

Flat Root Splines are those in which fillets join the arcs of major or minor circles to the tooth sides. Fig. 1a. Lead Variation Fig. 1b. Parallelism Variation Fig. 1c. Alignment Variation Reference Axis Center Lines of Teeth Reference Axis [Pin measurements for involute splines - The Home Shop ...](#) Involute Spline ANSI B92.1 Equations and Design. In general manufacturing external splines is facilitated either by hobbing, rolling, or on a gear shaper, and internal splines either by broaching or on a gear shaper. The internal spline is held to basic dimensions and the external spline is varied to control the fit. [Spline Cutting Machines and Hobs -](#)

Koepfer America  
measurement and stresses for SAE Involute Splines according to ANSI B92.1 and ANSI B92.1b. WN4 uses imperial units; metric units are supported as well. The program was designed to calculate spline fit types "Flat Root Side Fit" and "Fillet Root Side Fit" as well as "Major Diameter Side Fit". Pressure angle can be 30°, 37,5° or 45°. Normal ...

Inside Splines | Gear Solutions Magazine  
Your Resource to ...

a) The external major diameter, unless chamfered or reduced, may interfere with the internal form diameter on flat root side fit splines. Internal splines made to the 1957 and 1960 standards had the same dimensions

as shown for the major diameter fit splines in this standard.

#### **W N 4**

Involute Splines: Old American Standard; ANSI B92.1970 - Flat Root Major Diameter Fit; Fillet Root Side Fit & Flat Root Side Fit; ANSI B92.1-1970 Formulas for the Basic Dimensions 30°, 37.5°, & 45°PA; ANSI B92.1-1970 Maximum Tolerance for Space Width & Tooth Thickness of Tolerance Class 5 Splines; Ansi B92.1-1970

Interchangeability Splined Shafts and Bushings - Flat-root, side-fit - Fillet ...

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**A Brief Overview Of Splines | Gear Solutions Magazine Your ...**

Side-fit involute splines may have a flat-root or fillet-root form. A flat-root ramp on the hob

tooth profile will generate a chamfer on the tooth to provide clearance at the major diameter between the external and internal mating teeth. A fillet-root spline hob has a smooth radius so as not to generate a hard chamfer on the spline teeth tips.

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