

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION R 1081

TERMS AND DEFINITIONS RELATING TO DRIVES USING  
V-BELTS AND GROOVED PULLEYS

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1st EDITION

May 1969

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## BRIEF HISTORY

The ISO Recommendation R 1081, *Terms and definitions relating to drives using V-belts and grooved pulleys*, was drawn up by Technical Committee ISO/TC 41, *Pulleys and belts (including vee-belts)*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question led to the adoption of a Draft ISO Recommendation.

In May 1968, this Draft ISO Recommendation (No. 1603) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Italy	Switzerland
Belgium	Japan	Thailand
Brazil	Netherlands	Turkey
Czechoslovakia	New Zealand	U.A.R.
Denmark	Peru	United Kingdom
Finland	Portugal	U.S.A.
France	South Africa, Rep. of	U.S.S.R.
India	Spain	Yugoslavia
Israel	Sweden	

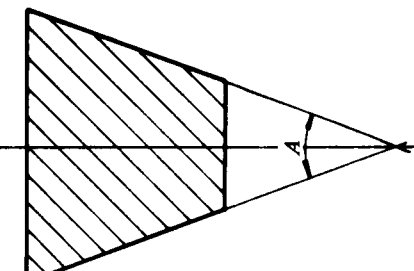
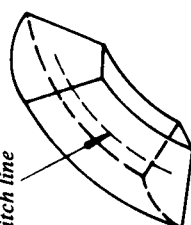
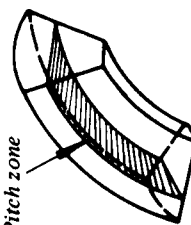
One Member Body opposed the approval of the Draft :

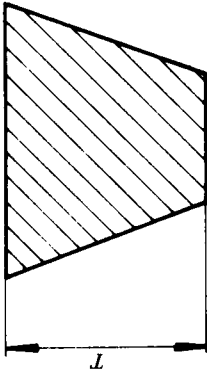
Norway

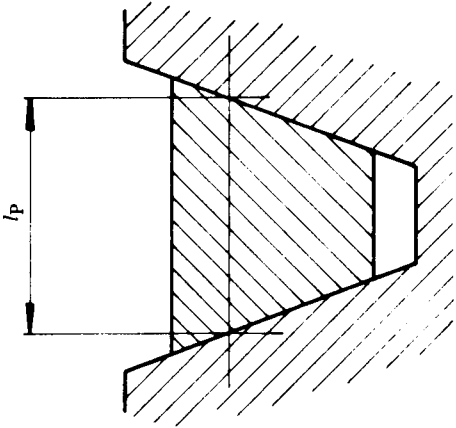
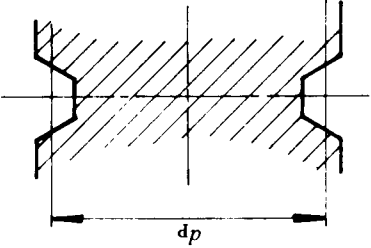
The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in May 1969, to accept it as an ISO RECOMMENDATION.

**TERMS AND DEFINITIONS RELATING TO DRIVES USING  
V-BELTS AND GROOVED PULLEYS**

Term	Symbol	Definition	Figure
<p>1. General definition <i>V-belt drive</i></p> <p>2. Definitions relating to V-belts 2.1 <i>V-belt</i></p>		<p>A drive which consists of one or more V-belts mounted on grooved pulleys. The profiles of the belts and of the pulley grooves are such that the belts come into contact with the sides of the pulley grooves only and not with the base of the grooves.</p> <p>A belt, the cross-section of which is shaped roughly like a trapezium. The latter is usually isosceles. On a cross-section of a straight belt, the trapezium is outlined by the base, sides and top of the belt. The intersection of the extended profiles of the base, side and top is considered when the edges are cut short or rounded.</p> <p>NOTE. -- There are also belts of cross-section in the shape of non-isosceles trapeziums. In an extreme case, the base comes to a point and this gives a triangular belt.</p>	

Term	Symbol	Definition	Figure
<p>2.2 <i>Angle of a V-belt</i></p>	<p><math>A</math></p>	<p>The included angle obtained by extending the sides of the belt.</p>	
<p>2.3 <i>Pitch line of a V-belt</i></p>		<p>Any circumferential line in the belt which keeps the same length when the belt is bent perpendicularly to its base.</p>	
<p>2.4 <i>Pitch zone of a V-belt</i></p>		<p>Geometric zone containing all of the pitch lines.</p>	
<p>2.5 <i>Pitch width of a V-belt</i></p>	<p><math>l_p</math></p>	<p>The width of the belt at its neutral zone. The width remains unchanged when the belt is bent perpendicularly to its base. It coincides with the width of the pitch zone.</p>	

Term	Symbol	Definition	Figure
2.6 <i>Pitch length of a V-belt</i>	$L_p$	The length of the pitch line of a belt.	
2.7 <i>Inside length of a V-belt</i>	$L_i$	The approximate length measured along the inside of the belt, when the latter is in a normal untensioned condition.	
2.8 <i>Outside length of a V-belt</i>	$L_e$	The approximate length measured along the outside of the belt, when the latter is in a normal untensioned condition.	
2.9 <i>Nominal height of a V-belt</i>	$T$	Height of the trapezium outlined on a cross-section.	
2.10 <i>Relative height of a V-belt</i>	$\frac{T}{t_p}$	The ratio of the nominal height of the belt to its pitch width.	

Term	Symbol	Definition	Figure
<p>3. Definitions relating to grooved pulleys</p> <p>3.1 <i>V-grooved pulley</i></p>		<p>A pulley with one or more grooves (which, in most cases, have an identical profile, in the shape of a truncated or non-truncated symmetrical V) obtained by rotation of this profile around the pulley axis.</p>	
<p>3.2 <i>Pitch width of a pulley groove</i></p>	<p><math>l_p</math></p>	<p>That width of the pulley groove which has the same dimensions as the pitch width of the belt used with this pulley.</p>	
<p>3.3 <i>Pitch diameter of a grooved pulley</i></p>	<p><math>d_p</math></p>	<p>The diameter of the pulley measured at the level where the width of the groove is equal to the pitch width of the corresponding belt.</p>	
<p>3.4 <i>Pitch circumference of a pulley groove</i></p>	<p><math>C_p</math></p>	<p>The circumference of a circle with a diameter equal to the pitch diameter.</p>	