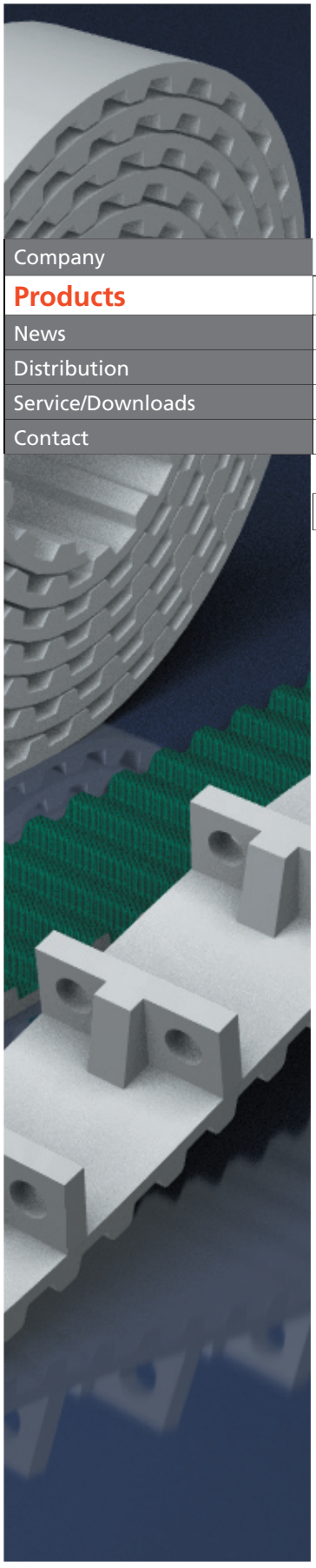



| | |
|---|---|
| Company | |
| **Products** | **BRECOFLEX® TIMING BELTS** |
| News | BRECO® TIMING BELTS |
| Distribution | BRECO® ATN-System |
| Service/Downloads | Timing belts with coatings |
| Contact | Mechanical rework |
| | **Weld-on profiles** |
| | Components |


# Weld-on profiles

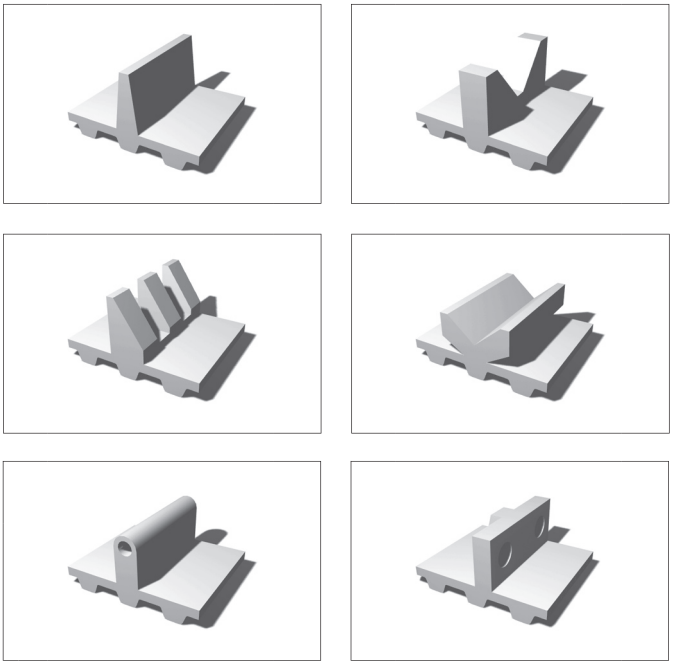
## The flighted timing belt

For whatever transport purpose the flighted timing belt is to be used - the back of the belt can be equipped with any number and order of welded-on flights.

The manufacture of timing belts, the production of flights and their welding on the flighted belt are performed in our company.

We offer a selection of over 2500 forms of profiles.

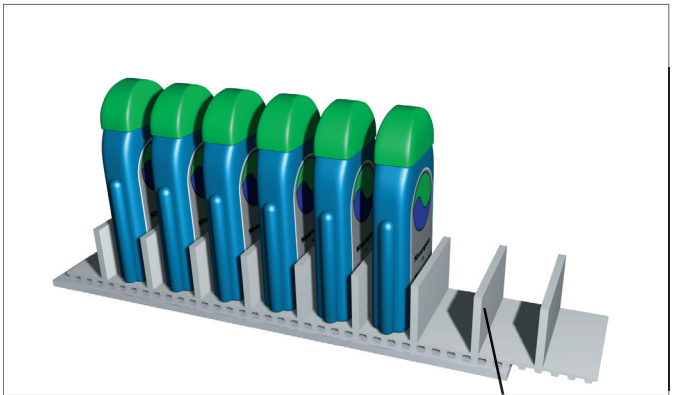
## Examples of profiles



## The profile

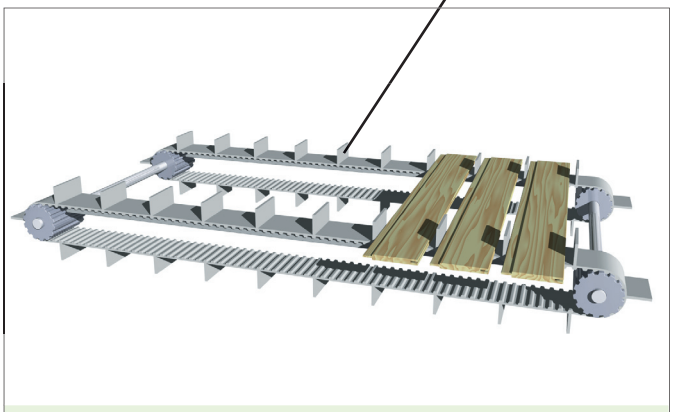
These flights are made of polyurethane, the same high quality materials as is used for the timing belt itself.

Depending on the customer's requirements and within the framework of our production means, the flight shape can be freely adapted to the product to be transported and the special purpose.



**Supply belt**

welded-on profiles



**Synchonous conveyor**

**Rotary indexing magazine**

**How to proceed**

At first, the basis for the selection of belt type, belt length and the depending pulleys is the surrounding construction.
All belt types of our manufacturing range can be equipped with flights/profiles. Timing belts together with bed plates enable a reduced friction transportation. BRECO®, BRECOFLEX® TIMING BELTS in the version PAZ are alternatively available.

**Profile selection**

The material to be transported and the transport purpose influence the selection of the flight. Following possibilities of flight versions are available:

More than 2000 available flight shapes

Flights are manufactured as polyurethane moulded part.

Depending on their dimensions, standard flights can be reworked by mechanical processes (drilling, milling). If necessary, explain design requirements by means of a drawing.

Profiles/Flights of sheet material

Depending on the quantity, flights will possibly be cut from pre-fabricated PUR sheets. The following board thicknesses are available:
1.5; 2; 3; 4; 5; 6; 7; 8; 10; 11; 15; 20 mm

Profiles/Flights of new tool

Within the framework of our production possibilities, there are practically no limitations for new design requirements as far as the shape of injection moulded flights are concerned. Costs for tools and moulds might apply.

**Flight material**

PUR approx. 92 Shore, same material as for BRECO®, BRECOFLEX® TIMING BELTS.

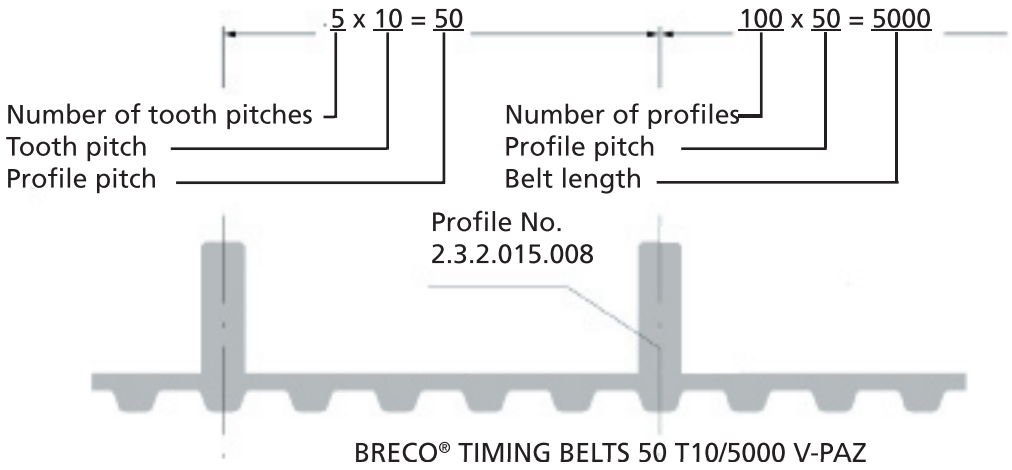
**Profile position opposite tooth**

The belt flexibility of timing belts is located mainly in the tooth gap area. To retain the timing belt flexibility around the pulley, the profile position „opposite the tooth“ is to be preferred.

**Profile pitch**
**Tooth pitch**

We recommend to select a flight pitch which is an integral multiple of that of the tooth. Flight pitches other than the integral multiple of the tooth pitch can be supplied, it has, however, to be noted, that a uniform offset of the flight position in relation to the tooth position will accumulate.

**Ordering examples**
Measurements




BRECO® TIMING BELTS 50 T10/5000 V-PAZ

The equipping of the timing belt with profiles is always made as a multiple of the tooth pitch, i.e. the welded on flight position follows exactly the belt tooth pitch. For this reason, a cumulative error from profile pitch to tooth pitch will not occur.

**Tolerances**

The reached profile position of each individual profile is ± 0.5 mm of the intended set point position. A tolerance of - 0.5 mm is to be taken into account for the profile height.

**Ordering code**
ordering text

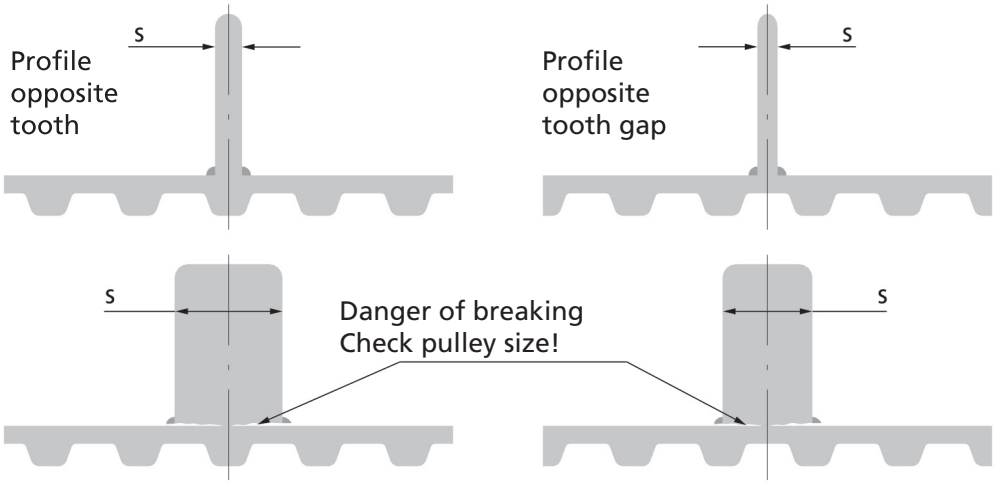
For the required flighted timing belt the order should preferably be accompanied by a dimensional drawing.
The flighted timing belt can also be defined and transmitted by the order text.
Example: BRECO® TIMING BELTS 50 T 10/5000 V-PAZ with welded-on flights, flight no. 2.3.2.015.008, number of flights 100, flight pitch 50, flight position opposite the tooth.

**Flash**

A flash builds up between flight and back of the belt. A polyurethane overhang with a 0.5 to 1 mm radius could form.

Should the flash impair the intended function, ask for „clean up flash“ in your order information.

## Profile thickness s




The timing belt flexibility can be influenced by the welded-on flight. Note as a rule that the flight thickness s is to be selected as thin as possible. The table below shows the individually recommended maximum profile thickness s in mm in relation to the selected number of pulley teeth.

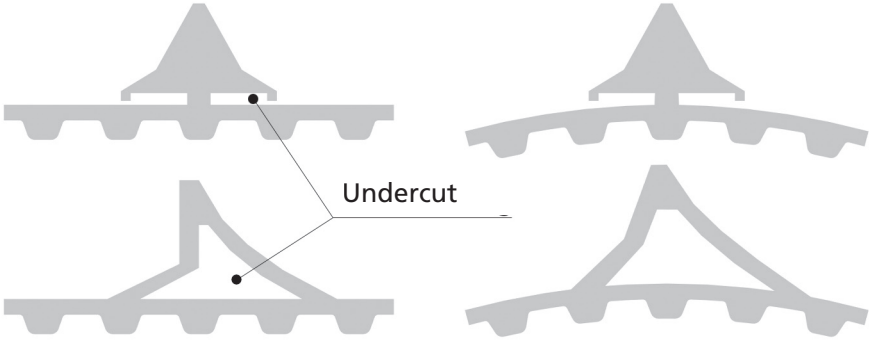
| | max. profile thickness in mm when welded on position is opposite tooth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | max. profile thickness in mm when welded on position is opposite tooth gap | | | | | | | | | | | | |
| | | | number of pulley teeth | | | | | | | | | | | |
| **Type/pitch** | **20** | | **25** | | **30** | | **40** | | **50** | | **60** | | **100** | |
| **AT5/T5** | 5 | 2 | 6 | 2 | 6 | 3 | 8 | 4 | 9 | 6 | 10 | 8 | 12 | 10 |
| **AT10/T10** | 8 | 3 | 9 | 4 | 10 | 4 | 12 | 6 | 14 | 9 | 15 | 12 | 20 | 20 |
| **AT20/T20** | 12 | 5 | 13 | 5 | 15 | 6 | 18 | 8 | 20 | 12 | 23 | 20 | 30 | 30 |
| **XL** | 5 | 2 | 6 | 2 | 6 | 3 | 8 | 4 | 9 | 6 | 10 | 8 | 12 | 10 |
| **L** | 6 | 3 | 7 | 3 | 8 | 4 | 10 | 5 | 12 | 7 | 13 | 10 | 16 | 16 |
| **H** | 8 | 4 | 9 | 5 | 10 | 6 | 12 | 7 | 14 | 10 | 15 | 12 | 20 | 20 |
| **XH** | 13 | 5 | 14 | 5 | 15 | 6 | 18 | 8 | 20 | 12 | 23 | 20 | 30 | 30 |

Example for the calculation of the profile thickness s for a BRECO® TIMING BELT with pitch T 10, which is running around a pulley with 20 teeth:

- When the profile position is „opposite the tooth“, profile thickness $s \leq 8$ mm,
- When the profile position is „opposite the tooth gap“, profile thickness $s \leq 3$ mm.

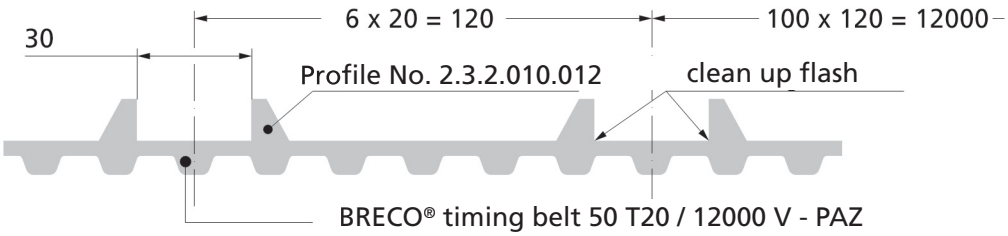
Remark: We recommend to select the next smaller size as profile thickness when there are intermediate sizes (e.g. 22 teeth).

## Profiles with undercut



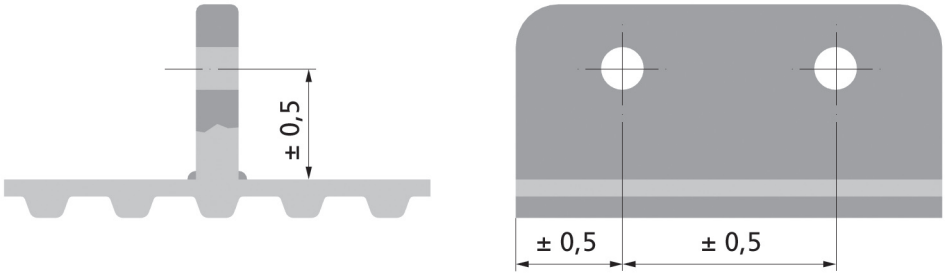

The timing belt flexibility is assured, when there are planned corresponding undercuts.

## Profile pair



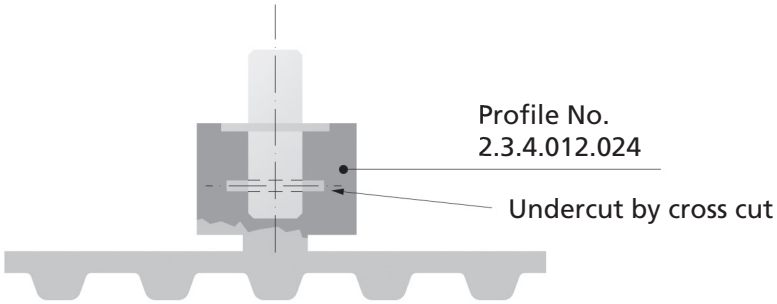

Profile pairs (flight chambers, flight pockets) are preferred in the transport technology for parts positioning and for so-called inset procedures. For the clearance between the profiles, the production tolerance amounts to
± 0.5 mm.
Indicate a tolerance reduced to ± 0.2 mm separately, while taking make-ready and/or tool costs into consideration.

## Profiles with bore holes




It is possible to ask for boreholes for special profile attachments. Tolerances are to be considered.

## Profiles with moulded inserts

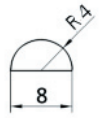



Profiles with moulded inserts can be manufactured for special functional characteristics. To shape moulded inserts (steel, aluminium or similar) please ensure the existence of appropriate undercuts.
Remark: The orderer has to make available a sufficient number of moulded-in inserts with an approx. 5 % surplus for the manufacture of samples.

## Joined version

Joining is made by welding the full profile fitting surface on the back of the belt.

## Flights from existing moulds (partial)

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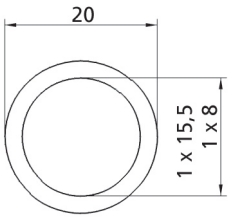


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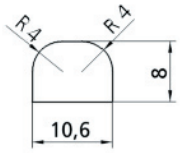


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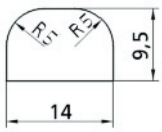


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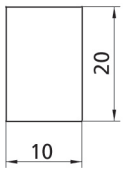


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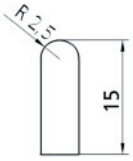


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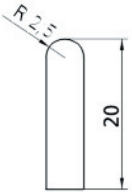


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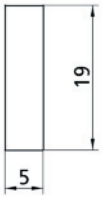


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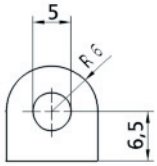


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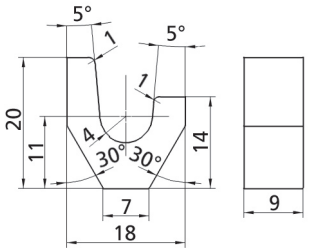


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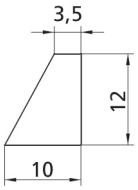


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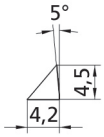


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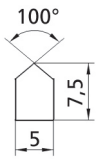


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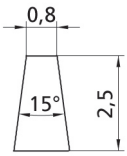


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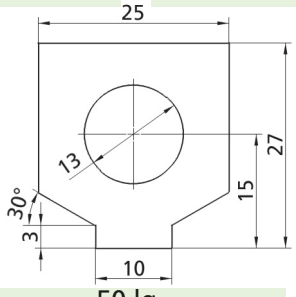


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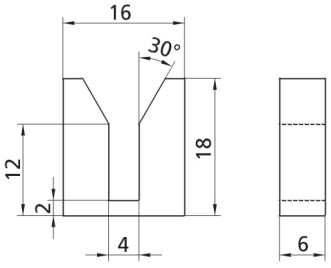


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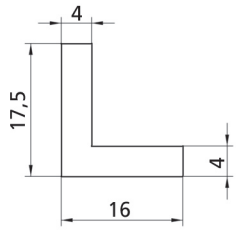
## Flights from existing moulds (partial)

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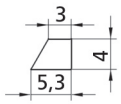


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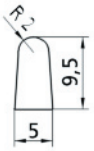


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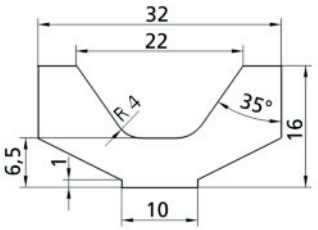


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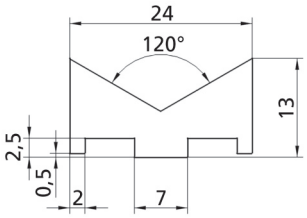


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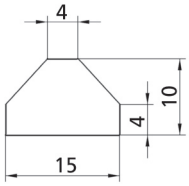


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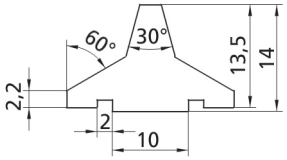


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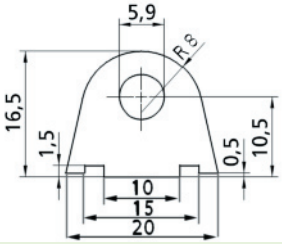


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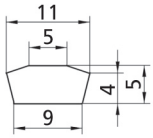


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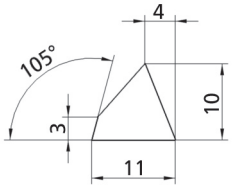


98 lg
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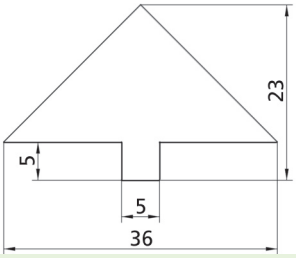


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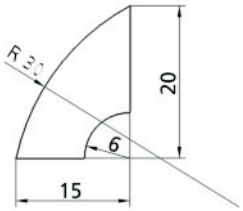


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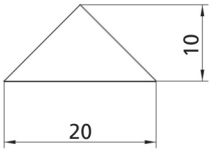


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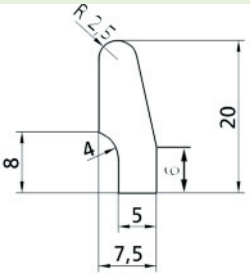


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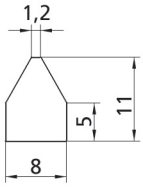


10 lg
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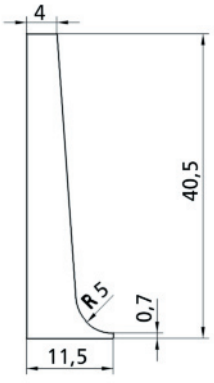
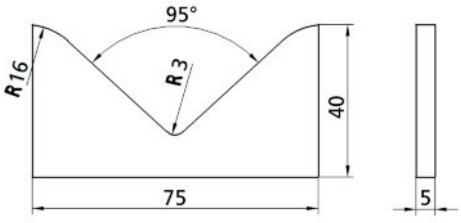



2 x 24 lg
1 x 28 lg
2.3.3.040.008

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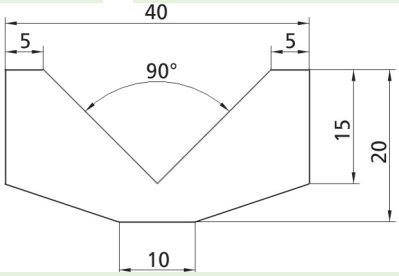


50 lg
2.3.3.020.040

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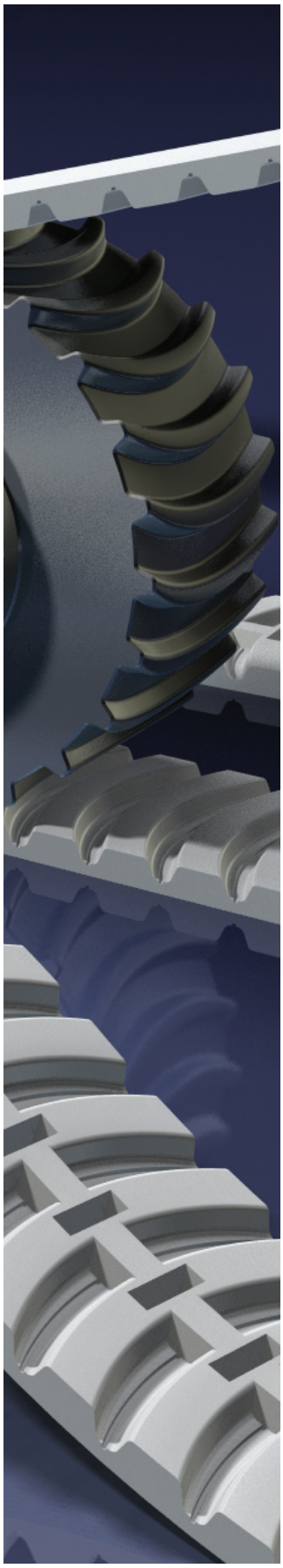

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