

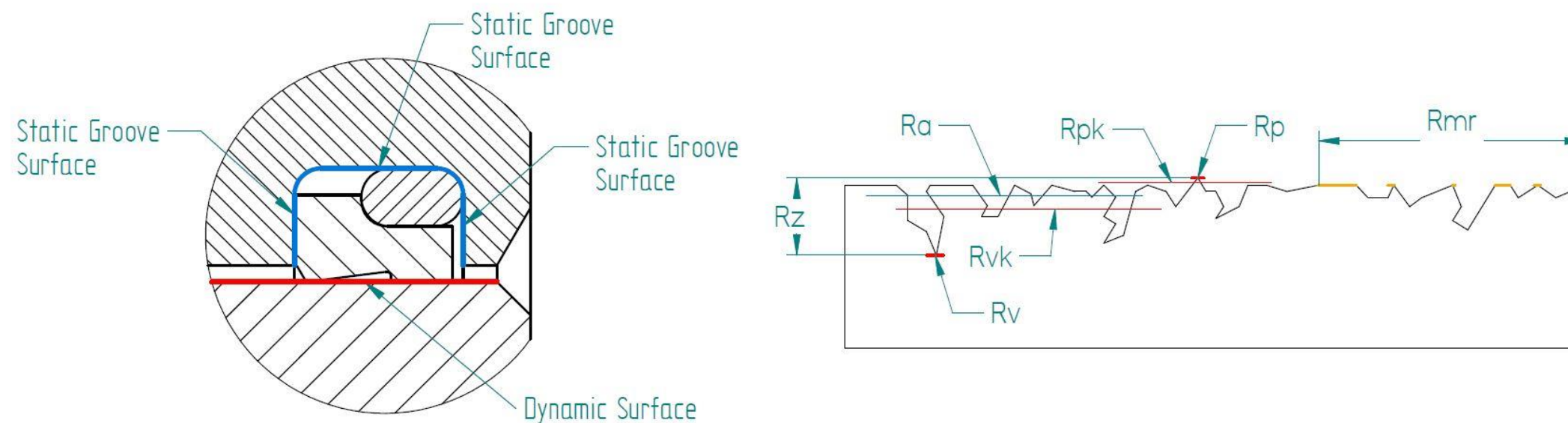
## Technical specification

Medium Gas	Dynamic surfaces	Static and groove surfaces
<b>Measurement</b>	<b>Recommendation</b>	<b>Recommendation</b>
Ra	< 0,1 $\mu\text{m}$	< 0,1 $\mu\text{m}$
Rz	< 0,5 $\mu\text{m}$	< 0,5 $\mu\text{m}$
Rmr	70 - 90% at depth of $p = 0,25 R_z$ (Rtm) relative to a reference line $c = 5\% tp$	70 - 90% at depth of $p = 0,25 R_z$ (Rtm) relative to a reference line $c = 5\% tp$
Rpk	< 0,5 $\mu\text{m}$	< 0,5 $\mu\text{m}$
Rvk	< 0,5 $\mu\text{m}$	< 0,5 $\mu\text{m}$

Medium Water	Dynamic surfaces	Static and groove surfaces
<b>Measurement</b>	<b>Recommendation</b>	<b>Recommendation</b>
Ra	< 0,2 $\mu\text{m}$	< 0,3 $\mu\text{m}$
Rz	< 0,8 $\mu\text{m}$	< 1,0 $\mu\text{m}$
Rmr	60 - 75% at depth of $p = 0,25 R_z$ (Rtm) relative to a reference line $c = 5\% tp$	60 - 75% at depth of $p = 0,25 R_z$ (Rtm) relative to a reference line $c = 5\% tp$
Rpk	< 0,15 $\mu\text{m}$	< 0,15 $\mu\text{m}$
Rvk	< 0,1 $\mu\text{m}$	< 0,1 $\mu\text{m}$

Medium Oil	Dynamic surfaces	Static and groove surfaces
<b>Measurement</b>	<b>Recommendation</b>	<b>Recommendation</b>
Ra	< 0,4 $\mu\text{m}$	< 0,4 $\mu\text{m}$
Rz	< 1,0 $\mu\text{m}$	< 1,0 $\mu\text{m}$
Rmr	50 - 70% at depth of $p = 0,25 R_z$ (Rtm) relative to a reference line $c = 5\% tp$	50 - 70% at depth of $p = 0,25 R_z$ (Rtm) relative to a reference line $c = 5\% tp$
Rpk	< 0,2 $\mu\text{m}$	< 0,2 $\mu\text{m}$
Rvk	< 0,2 $\mu\text{m}$	< 0,2 $\mu\text{m}$

\* Surface roughness for PTFE seals



### Surface roughness parameters

Surface condition is 1 of the very important factors influencing the lifetime and the leakage rate of seals. When surface conditions are not good enough, seals will start leaking or wear out very quickly.

This is why AST specifies surface roughness parameters without taking in account the machine patterns and machine restrictions. Please be advised that also the machine pattern can influence leakage and / or wear.

If you are not able to produce conform these parameters, please be aware that it will possibly lead to more leakage or wear.

Other sealing materials can work with other parameters depending on speed, pressure etc. For more information about other materials please contact AST.

For special contact surfaces like ceramic coatings, duplex etc. , please contact AST.

### Roughness parameters:

**Ra** -> Arithmetic mean surface roughness:  
Arithmetical mean of the sums of all profile values.

**Rz** -> Surface roughness depth:  
Mean value of the five Rz-values from the five sampling lengths over the total measured length.

**Rmr** -> Material proportion of the profile:  
Quotient from the sum of all material lengths of the profile elements at the specified section height and the measured length.

**Rpk** -> Reduced peak height:  
The average height of the protruding peaks above the roughness core profile.

**Rvk** -> Reduced valley depth:  
The average depth of the profile valleys projecting through the roughness core profile.