QUESTIONNAIRE WEAR PARTS

Date: _____

1. Gerneral data

Company: _____

Adress: _____

Post code: _____ City: _____ Country: _____

Contact: _____ Department: _____

Phone: _____ E-Mail: _____

2. Application data:

Description of the application: _____

Present material: _____

Demand/year: _____ Actual Price: _____

↓ Pobligatory demand ↓ wish-demand

Why do you want to use plastic: _____

_____

Which disadvantages should be discontinued: _____

Grade of function impairing: _____

_____

❍❍ Which advantages should be reached: _____

❍❍ Which precision / dimensional stability is needed: _____

3. Industry:

☐ machine tool	☐ domestic appliances	☐ pump manufactory
☐ car-supplier industry	☐ electrical machines	☐ chemical & apparatus engineering
☐ tractors, agricultural machinery	☐ office machines	☐ general mechanical engeneering

☐ _____

4. Connecting parts:

Shape, dimension and tolerances: _____

❍❍ Opposed material: _____

❍❍ roughness height of the opposed material: _____ µm R_t

❍❍ hardness of the opposed material: _____ HRC

5. Dimensions of the wear part:

❍❍ max. length _____ mm

❍❍ max. width _____ mm

❍❍ max. height _____ mm

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6. Attachment of the wear part:

☐ by a connection	☐ by form-fit	☐ by force closure
☐ by screw coupling	☐ by dowel pins	☐ by pressing in
☐ by glueing	☐ _____	☐ _____
☐ _____		

7. Surrounding medium:

☐ Outside use ☐ Inside use

☐ Medium _____ _____ °C

☐ Air with a temperature of: _____ °C

and a relative humidity of: _____ %

☐ Chemicals

Name: _____

Concentration: _____ % pH Value: _____ Temperature: ____°C

8. Medium between connecting parts:

8.1. Lubrication

☐ No lubrication - dry operation -

☐ Oil lubrication

☐ Grease lubrication ☐ Grease lubrication unique

☐ Water lubrication:

available water volume flow rate: _____ Kg/s

existing water flow temperature: _____ °C

maximum water outlet temperature: _____ °C

☐ other: _____

8.2. Medium between wear part and opposing material

☐ abrasive Partikel:

☐ Material: _____

☐ Size: _____

☐ Ammount: _____

☐ Other: _____

☐ Same as surroounding medium

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9. electrical influences:

Demanded electrical influences:

☐ ☐ Penetration resistance _____ kV/mm
☐ ☐ Dielectric constant _____
☐ ☐ Loss factor _____
☐ ☐ Resistivity _____ Ohm/cm
☐ ☐ Surface resistance _____ Ohm

10. Load:

10.1. Tensile stress:

☐ no tensile stress further on at 10.2

☐ Static stress ☐ Fatigue stress ☐ Cyclic stress

Continously: _____ N Maximum: _____ N ☐ Impact factor: _____

Loading time of static tensile stress: _____ ms/ s / min / h / days / years

Loading time of max. tensile stress: _____ ms/ s / min / h / days / years

How often per time unit does the max. tensile stress occur: _____

How long are the breaks between the max. tensile stress: _____

10.2 Compressive stress:

☐ no compressive stress further on at 10.3

☐ Static stress ☐ Fatigue stress ☐ Cyclic stress

Continously: _____ N Maximum: _____ N ☐ Impact factor: _____

Loading time of static compressive stress: _____ ms/ s / min / h / days / years

Loading time of maximum compressive stress: _____ ms/ s / min / h / days / years

How often per time unit does the max. compressive stress occur: _____

How long are the breaks between the max. compressive stress: _____

10.3 Flexural stress:

☐ no flexural stress further on at 10.4

☐ Static stress ☐ Fatigue stress ☐ Cyclic stress

Continously: _____ N Maximum: _____ N ☐ Impact factor: _____

Loading time of static flexural stress: _____ ms/ s / min / h / days / years

Loading duration of the permanent flexural stress: _____ ms/ s / min / h / days / years

How often per time unit does the max. flexural stress occur: _____

How long are the breaks between the max. flexural stress: _____

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10.4 Torsional stress:

☐ no torsional stress further on at 10.5

☐ Static stress ☐ Fatigue stress ☐ Cyclic stress

Continously: _____ N Maximum: _____ N ☐ Impact factor: _____

Loading time of static torsional stress: _____ ms/ s / min / h / days / years

Loading time of max. torsional stress: _____ ms/ s / min / h / days / years

How often per time unit does the max. torsional stress occur: _____

How long are the breaks between the max. torsional stress: _____

10.5. Shear stress:

☐ no shear stress further on at 10.6

☐ Static stress ☐ Fatigue stress ☐ Cyclic stress

Continously: _____ N Maximum: _____ N ☐ Impact factor: _____

Loading time of static shear stress: _____ ms/ s / min / h / days / years

Loading time of maximal shear stress: _____ ms/ s / min / h / days / years

How often per time unit does the max. shear stress occur: _____

How long are the breaks between the max. shear stress: _____

10.6. buckling stress:

☐ no buckling stress further on at 11

☐ Static stress ☐ Fatigue stress ☐ Cyclic stress

Continously: _____ N Maximum: _____ N ☐ Impact factor: _____

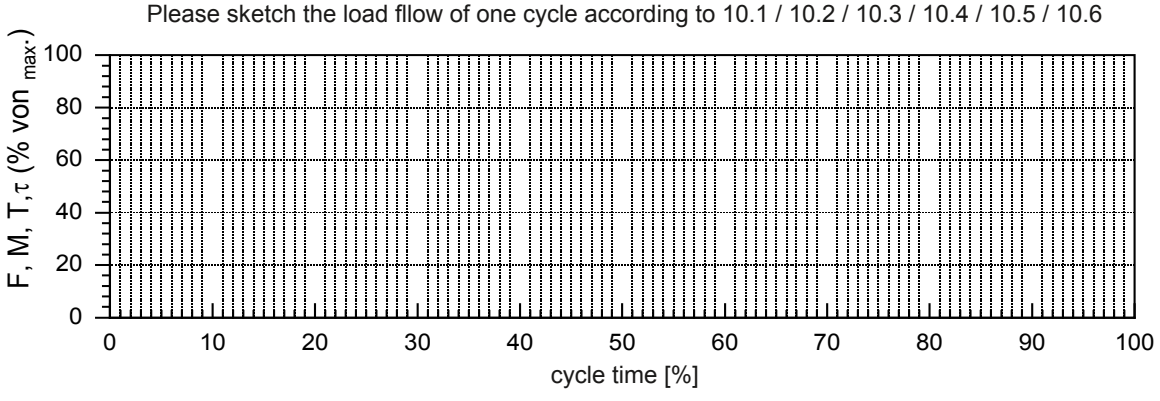
Loading time of static buckling stress: _____ ms/ s / min / h / days / years

Loading time of max. buckling stress: _____ ms/ s / min / h / days / years

How often per time unit does the max. buckling stress occur: _____

How long are the breaks between the max. buckling stress: _____

Please sketch the load fllow of one cycle according to 10.1 / 10.2 / 10.3 / 10.4 / 10.5 / 10.6



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11. Movement:

☐ no movement further on at 12
☐ tumbling movement
☐ sliding movement
☐ others: _____

11.1 Rotation

☐ no rotation further on at 11.2

Permanent screw speed: _____ max. screw speed: _____ min^{-1}

Loading time of permanent screw speed: _____ ms/ s / min / h / days / years

Loading time of max. screw speed: _____ ms/ s / min / h / days / years

Cycle time: _____

Number of cycles per time unit: _____

How long are the breaks between the cycles: _____

☐ no oscillation further on at 11.3

11.2 Oscilation: _____ tilting angle: _____ °

Permanent frequecy: _____ Hz maximum frequency: _____ Hz

Loading time with perm. frequency: _____ ms/ s / min / h / days / years

Loading time of max. frequency: _____ ms/ s / min / h / days / years

Cycle time: _____

How long are the breaks between the loading cycles: _____

☐ no stroke movement further on at 12

11.3 Stroke movement:

Permanent stroke speed

Perm. stroke: _____ mm number of strokes per time unit: _____

Maximum stroke speed

Max. stroke: _____ mm number of strokes per time unit: _____

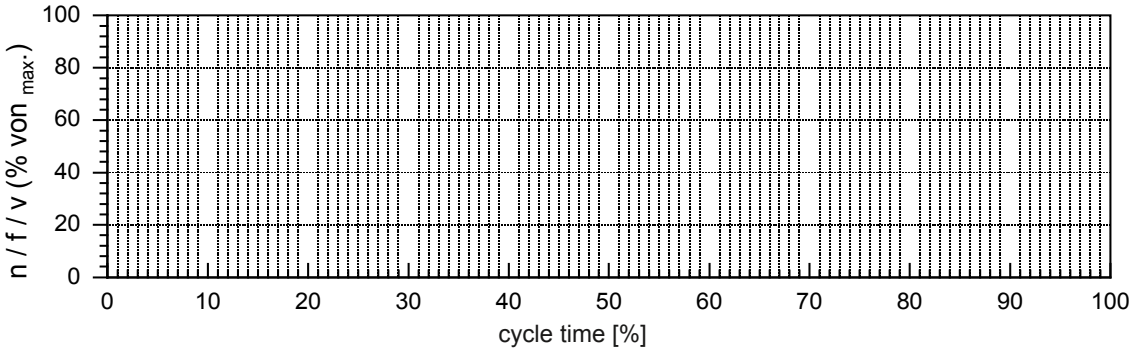
Loading time of permanent stroke speed: _____ ms/ s / min / h / days / years

Loading time of maximum stroke speed: _____ ms/ s / min / h / days / years

Permanence of one stroke: _____

How long are the breaks between the strokes: _____

Please sketch the movement flow of one cycle according to 11.1 / 11.2 / 11.3



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12. Ambient temperature:

☐ ☐ sustained temperature: _____ °C

☐ ☐ maximum temperature: _____ °C

How often per time unit does the maximum temperature occur: _____

How long does the maximum temperature occur: _____

What medium transfers the temperature: _____

Which movement and load occurs simultaneous with the heat exposure:

Tensile stress:

- ☐ none
- ☐ permanent as at 10.1.
- ☐ maximum as at 10.1.
- ☐ other: _____ N

Compressive stress:

- ☐ none
- ☐ permanent as at 10.2.
- ☐ maximum as at 10.2.
- ☐ other: _____ N

Flexural stress:

- ☐ none
- ☐ permanent as at 10.3.
- ☐ maximum as at 10.3.
- ☐ other: _____ Nm

Torsional stress:

- ☐ none
- ☐ permanent as at 10.4.
- ☐ maximum as at 10.4.
- ☐ other: _____ Nm

Shear stress:

- ☐ none
- ☐ permanent as at 10.5.
- ☐ maximum as at 10.5.
- ☐ other: _____ N/mm²

Buckling stress

- ☐ none
- ☐ permanent as at 10.6.
- ☐ maximum as at 10.6.
- ☐ other: _____ N/mm²

Movement:

☐ Rotation

- ☐ none
- ☐ permanent as at 11.1.
- ☐ maximum as at 11.1.
- ☐ other: _____

☐ Oscillation

- ☐ none
- ☐ permanent as at 11.2.
- ☐ maximum as at 11.2.
- ☐ other: _____

Stroke movement

- ☐ none
- ☐ permanent as at 11.2
- ☐ maximum as at 11.3.
- ☐ other: _____

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13. Working life:

❍❍ ☐ Wished working life: _____ h

❍❍ ☐ Permissible clearance increase

maximum radial clearance after _____ hours of operation _____ mm

maximum axial clearance after _____ hours of operation _____ mm

14. Miscellaneous:

❍❍ special material wishes: _____

❍❍ additional copntitions to be served: _____

The more information you give to us by this questionaire, the more precise solution we can work out for your application

- Please add a representation or a sketck of your application -

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