TQI – Technical Questions Industry

BREMSKERL
Der Spezialist für Brems- und Kupplungsbeläge
The specialist for brake and clutch linings

1. Project name / Part number

Date:_____

2. Description of friction lining

a. Geometric specifications Type of friction lining

☐ Ring	☐ Internal shoe brake	☐ Flexible brake band
☐ Ring segment	☐ External shoe brake	☐ Others:
☐ Brake block	☐ Disc brake	_____

b. Geometric specifications carrier (if necessary/requested) Connection

☐ Bonding	☐ Overmoulding
☐ Riveting	☐ Others: _____

c. Please attach drawings / specification sheets
d. Estimated volume per year: _____
e. Target price, if known: _____ €/piece

3. Tribological needs

a. Coefficient of friction
   i. Coefficient of friction, static: _____
   ii. Coefficient of friction, dynamic: _____
b. Wear rates
   i. Wear rate of friction lining < _____ cm³/kWh
   ii. Wear rate of friction partner < _____ cm³/kWh
c. Used test parameters for above values: _____

4. Physical needs

a. Mechanical properties / strength requirements
   i. Tensile strength: _____ MPa
   ii. Impact strength: _____ kJ/m²
   iii. Ball indentation hardness: _____ N/mm²
   iv. Hardness Shore D: _____

b. Metallic raw materials allowed:
   i. ☐ yes
      magnetic components allowed? _____
      non-magnetic metallic components allowed? _____
   ii. ☐ no

5. Operational conditions

a. Spec. Contact pressure: N/mm² - min: _____ / max: _____ / normal: _____
b. Friction speed: m/s - min: _____ / max: _____ / normal: _____
c. Temperature of mating surfaces: °C - min: _____ / max: _____ / steady: _____
d. Duration of friction: _____ s
e. Operating frequency (e.g. 10/h): _____
f. Friction partner:
   i. Material: _____
   ii. Surface condition: _____
   iii. Coatings / corrosion protection: _____

6. Details of application

a. Type of application
- ☐ Brake: _____
  (e.g. spring applied brake or band brake)
- ☐ Clutch: _____
  (e.g. multiple- or single disc clutch)
- ☐ Others: _____

b. Description of task and application

c. Contact and frictional substances:
- ☐ dry
- ☐ dry, but occasional contact with _____ not excluded
- ☐ oil; type of oil: _____
- ☐ grease; type of grease: _____
- ☐ others:_____

d. Do you already use a friction lining for this application? _____
   i. If yes, which type you are using? _____
   ii. Why do you need another friction lining?
   - ☐ coefficient of friction too high / ☐ coefficient of friction too low
   - ☐ spread of coefficient of friction / ☐ fading
   - ☐ wear of lining / ☐ wear of friction partner
   - ☐ noise or squeal / ☐ vibrations / ☐ friction stability
   - ☐ mechanical strength
   - ☐ others:

_____

7. Details of environmental conditions

a. Climatic influences
   i. Ambient temperature: min: _____ / max: _____ / normal _____ °C
   ii. Operating temperature: min: _____ / max: _____ / normal _____ °C
   iii. air humidity: min: _____ / max: _____ / normal _____ %
   iv. others: _____

b. Local influences
   i. Liquids (e.g. salty water, acid, lye, etc.) _____
   ii. Gases (e.g. Ozone, Ammonia, nitrogen oxide, etc.) _____
   iii. Others: _____

c. Application outside of buildings? _____
- ☐ Onshore
- ☐ Offshore

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