

# CAKESEP QUESTIONNAIRE for SOLID LIQUID SEPARATION



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**Company:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Filled in by:** \_\_\_\_\_  
**Date:** \_\_\_\_\_ **Project:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

**Product / Suspension:**  
 Temperature: \_\_\_\_\_ °C (norm.) \_\_\_\_\_ °C (max.) \_\_\_\_\_ °C (min.)  
 pH: \_\_\_\_\_ Density: \_\_\_\_\_ g/cm<sup>3</sup>  
**Liquid phase:**  
 Liquid viscosity: \_\_\_\_\_ cPs \_\_\_\_\_ °C Density: \_\_\_\_\_ g/cm<sup>3</sup>  
**Solids phase:**  
 Solids content: \_\_\_\_\_ % w/w \_\_\_\_\_ % v/v \_\_\_\_\_ g/L  
 Sedimentation speed: \_\_\_\_\_ cm / sec. Density: \_\_\_\_\_ g/cm<sup>3</sup>  
 Particle size (microns): \_\_\_\_\_ max. \_\_\_\_\_ average \_\_\_\_\_ min.  
 Nature of solids:  crystalline  colloidal  thixotropic  hygroscopic  abrasive  
 Crystal shape: \_\_\_\_\_ Bulk density of cake: \_\_\_\_\_ kg dry matter per L of wet cake  
 Soluble in: \_\_\_\_\_ solubility: \_\_\_\_\_ g/L at °C Melt temp. °C \_\_\_\_\_  
**Product in solution:** \_\_\_\_\_ g/L Toxicity: \_\_\_\_\_ Flammability \_\_\_\_\_  
 Crystallization temp.: \_\_\_\_\_ °C Solubility in wash liquid: \_\_\_\_\_ g/L at °C

**Production:**  continuous \_\_\_\_\_ m<sup>3</sup>/h \_\_\_\_\_ hours/ day  
 batch wise \_\_\_\_\_ m<sup>3</sup>/batch \_\_\_\_\_ batches/ day  
 Desired total cycle time for batch filtration: \_\_\_\_\_ minutes \_\_\_\_\_ minutes filtration time  
**Process information**  
 Suspension is coming from: \_\_\_\_\_  
 Filtrate goes to: \_\_\_\_\_  
 Solids go to: \_\_\_\_\_  
 Is it possible to return the heel volume and filter with the next batch?  yes  no  
 Must filter cake be washed ?  yes  no  
 if yes, with what? \_\_\_\_\_ temperature °C: \_\_\_\_\_  
 to meet which criteria? \_\_\_\_\_ or wash ratio: \_\_\_\_\_ vol. / vol. of cake  
 Desired solids discharge:  as thickened slurry at which solids content: (%w/w) \_\_\_\_\_  
 as slurry by back washing liquid for backwash: \_\_\_\_\_  
 as dry cake at which solids content: (%w/w) \_\_\_\_\_  
 Cake drying with:  Air \_\_\_\_\_ Nm<sup>3</sup>/h at \_\_\_\_\_ barg  
 Nitrogen \_\_\_\_\_ Nm<sup>3</sup>/h at \_\_\_\_\_ barg  
 Steam \_\_\_\_\_ kg/h at \_\_\_\_\_ barg  
 Additional information: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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Type of filter used up until now: \_\_\_\_\_ Brand: \_\_\_\_\_

Size (m2): \_\_\_\_\_ No. of units: \_\_\_\_\_ Capacity: \_\_\_\_\_ m3/h

Do you precoat your filters?  yes  no if yes, with what? \_\_\_\_\_ kg/m2

Do you use body feed?  yes  no if yes, with what? \_\_\_\_\_ g/L

differential pressure: \_\_\_\_\_ barg cycle time: \_\_\_\_\_ minutes

cake thickness: \_\_\_\_\_ mm cake solids: \_\_\_\_\_ % w/w

**Construction** Construction code: \_\_\_\_\_

<u>Recommended materials</u>	<u>Vessel</u>	<u>grade</u>	<u>Jacket</u>	<u>Vessel</u>	<u>lining</u>	<u>coating</u>
carbon steel	<input type="checkbox"/>		<input type="checkbox"/>	Hard rubber	<input type="checkbox"/>	
stainless steel	<input type="checkbox"/>	1.4435 / ss 316 L	<input type="checkbox"/>	PVDF		<input type="checkbox"/>
stainless steel	<input type="checkbox"/>	1.4571 / ss 316 Ti	<input type="checkbox"/>	Teflon® FEP	<input type="checkbox"/>	
stainless steel	<input type="checkbox"/>	1.4539 / ss 904 L	<input type="checkbox"/>	ECTFE (HALAR®)		<input type="checkbox"/>
Titanium	<input type="checkbox"/>			Glass	<input type="checkbox"/>	
other materials	_____			other materials	_____	

special construction req.: \_\_\_\_\_

Jacket required on cylinder:  yes  no Jacket on cone:  yes  no Jacket on cover:  yes  no

Jacket pressure / temp.: \_\_\_\_\_ barg / °C Insulation supports:  yes  no

Recommended materials for:

	<u>Internals</u>	<u>grade</u>		<u>Filter media</u>
stainless steel	<input type="checkbox"/>	1.4571 / ss 316 Ti	PP (Polypropylene)	<input type="checkbox"/>
stainless steel	<input type="checkbox"/>	1.4539 / ss 904 L	PVDF (Polyvinylidenfluoride)	<input type="checkbox"/>
PP	<input type="checkbox"/>	Polypropylene 20% GF	PTFE (Polytetrafluorethylene)	<input type="checkbox"/>
PVDF	<input type="checkbox"/>	Polyvinylidenfluoride	PPS (Polyphenylensulfide)	<input type="checkbox"/>
PPS	<input type="checkbox"/>	Polyphenylensulfide	others	_____

**Plant informations:** Control air : \_\_\_\_\_ barg Electric power: \_\_\_\_\_ V/Hz

Ex-protection required?  yes  no If yes, which type \_\_\_\_\_

other informations: \_\_\_\_\_

**Scope of supply:**  Filter  Valves  Instruments  Piping

Control system  Flowsheet and sequence  Complete skid