# TOSI® - Troubleshooting Guide*: What to do in case of...

<table>
<thead>
<tr>
<th>Test Results</th>
<th>Rating</th>
<th>Description</th>
<th>Possible Reasons for TOSI Test Results</th>
<th>Immediate corrective action (to be conducted by SPD personnel)</th>
<th>Proposal for optimization of relevant process parameters (requiring Service Engineer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Optimum Result</td>
<td>Test soil is completely dissolved, no test soil residuals left</td>
<td>Optimum result</td>
<td>not necessary</td>
<td>not necessary</td>
</tr>
</tbody>
</table>
| 1            | Completely rinsed = no water soluble proteins visible, but small amount of fibrin residues remains | a) Incorrect positioning of Test  
  b) Overloading/incorrect loading*  
  c) Temperature not optimal  
  d) Dosage of cleaner too low | a) Repeat test protocol with small load*  
  b) Investigate cleaning time  
  c) Investigate cleaning temperature  
  d) Check dosage/concentration of detergent | a) In case of confirmation: Consider other possible reasons  
  b) Adjust cleaning time to type of cleaner or extend time  
  c) Adjust cleaning temperature to type of detergent  
  d) Increase dosage | |
| 2            | Completely rinsed = no water soluble proteins visible, but most or all of the fibrin layer remains visible | a) Incorrect positioning of Test  
  b) Overloading/incorrect loading*  
  c) Cleaning time too short  
  d) Temperature not optimal  
  e) Dosage of cleaner too low  
  f) Insufficient detergent efficiency | a) Repeat test protocol with small load*  
  b) Repeat test protocol with correct load*  
  c) Investigate cleaning time  
  d) Investigate cleaning temperature  
  e) Check dosage/reservoir or cleaner  
  f) Check storage conditions and expiration Date of detergent | a) In case of confirmation: Consider other possible reasons  
  b) Adjust cleaning time to type of cleaner or extend time  
  c) Adjust cleaning temperature to type of detergent  
  d) Increase dosage or refill/reservoir | |
| 3            | Incompletely rinsed = small residuals of the water soluble (red) proteins visible, no or only little amount of fibrin layer remains visible | a-g) same as rating 3 but more distinct  
  h) Defective pump  
  i) Loss of pressure or other defect  
  j) Incorrect temp for detergent  
  k) Failure of chemistry in use | a-f) Same as rating 3  
  g) Refer to Service Engineer  
  h) Made any observations about leakages?  
  i) Investigate cleaning conditions  
  j) Check pump/valve/reservoir/storage conditions/expiration date of detergent | a-e) same as rating 3  
  f) Replace pump | |
| 4            | Incompletely rinsed = significant residuals of the water soluble (red) proteins visible, in addition most or all of the fibrin layer remains | a-g) same as rating 3 but more distinct  
  h) Defective pump  
  i) Loss of pressure or other defect  
  j) Incorrect temp for detergent  
  k) Failure of chemistry in use | a-f) Same as rating 3  
  g) Refer to Service Engineer  
  h) Made any observations about leakages?  
  i) Investigate cleaning conditions  
  j) Check pump/valve/reservoir/storage conditions/expiration date of detergent | a-e) same as rating 3  
  f) Replace pump | |
| 5            | TOSI - Test soil is largely or completely remaining | a-k) same as rating 4  
  l) No cold pre-rinsing step in place or too hot pre-rinsing  
  m) Complete breakdown of the washer and/or the chemistry | a-j) Same as rating 4  
  k) Investigate pre-rinsing temperature and/or availability of a pre-rinsing step  
  l) It is strongly recommended not to use the washer/disinfector until problems have been identified and resolved | a-i) same as rating 4  
  j) Reduce pre-rinsing temperature below 40°C or install cold pre-rinsing cycle | |

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**Recommended Cleaning Parameters** (please refer also to the specifications of the manufacturer)

<table>
<thead>
<tr>
<th>Type of Cleaner</th>
<th>Concentration</th>
<th>Cleaning Time</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkaline Cleaner pH-Value &gt;11,5</td>
<td>5 g/litre</td>
<td>5 min</td>
<td>&gt; 60°C</td>
</tr>
<tr>
<td>Neutral Cleaner with Enzymes</td>
<td>10 g/litre</td>
<td>10 min</td>
<td>45°C</td>
</tr>
<tr>
<td>Neutral Cleaner without Enzymes</td>
<td>7 - 10 g/litre</td>
<td>10 min</td>
<td>45° - 60°C</td>
</tr>
</tbody>
</table>

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**Important note**
In case of unsatisfactory test results these results should be confirmed by rerunning the test. In case of confirmation of the initial test results it is recommended to investigate potential reasons for the failure. In case the cause of a failure cannot be resolved by the SPD staff the technical service rep of the manufacturer of the machine or detergent should be contacted. It is not recommended to change any installed parameters if such modification is restricted to the technical service of the supplier! Such violation may result in loss of warranty!

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