

Operator: Validation Manager Vessel: Retort
 Process: Validation Product: Food
 Session Start: 22-11-2013 09:31:31 Time Zone: UTC offset 01:00:00
 Session Stop: 22-11-2013 09:31:37
 Session Name: Retort Validation
 Session Text:



Advanced Validation Report

Name: Advanced Validation Report
 Description:
 Cycle:
Total Test Result: Passed

Input parameters

Process Temperature: 119,00 °C
 Process Band (K): 6,00
 Process Upper Band (K): 3,00
 Process Lower Band (K): 3,00
 Maximum Process Time: 03:55:00
 Mode: Heat Distribution with Ambient only
 Heat Penetration with Core
 Define Periods by: Time Markers
 Maximum Temperature Fluctuation (K): 4,00
 Maximum Temperature Difference (K): 1,00
 Maximum Come Up Time: 00:12:00
 Minimum Holding Time (Total): 03:00:00
 Minimum Holding Time (Continuous): 03:00:00
 Maximum Holding Time (Total): 04:00:00
 Maximum Cooling Time: 00:20:00

Process Time

Process Start Time: 09-04-2007 18:46:37
 Process End Time: 09-04-2007 22:28:23
 Process Duration: 03:41:46
 Max. Allowed Process Duration: 03:55:00
 Process Test Result: Passed

Heat Distribution

| | | | |
|------------|-----------|---------------------|-----------------|
| Cold Zone: | 115,76 °C | 09-04-2007 18:57:33 | TA14948 - Ch 12 |
| Hot Zone: | 116,00 °C | 09-04-2007 18:57:33 | TA14937 - Ch 15 |
| Delta: | 0,24 °C | | |

Come Up Time

Come Up Start Time: 09-04-2007 18:46:37
 Come Up End Time: 09-04-2007 18:57:33
 Come Up Duration: 00:10:56
 Max. Allowed Come Up Duration: 00:12:00
 Come Up Test Result: Passed

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Holding Time

| | | | |
|---|---------------------|-------------------------|----------|
| Holding Start Time: | 09-04-2007 18:57:33 | | |
| Holding End Time: | 09-04-2007 22:23:37 | | |
| All Holding Times (Start, End, Duration): | 09-04-2007 18:57:39 | 09-04-2007 18:57:43 | 00:00:04 |
| | 09-04-2007 18:57:49 | 09-04-2007 22:23:37 (1) | 03:25:48 |
| Holding Duration (Total): | 03:25:52 | | |
| Holding Duration (Cont.): | 03:25:48 | | |
| Min. Allowed Holding Duration (Total): | 03:00:00 | | |
| Min. Allowed Holding Duration (Cont.): | 03:00:00 | | |
| Max. Allowed Holding Duration (Total): | 04:00:00 | | |
| Holding Test Result: | Passed | | |

Homogeneous Band

| | |
|---|--------|
| Homogeneous Temperature (K): | 0,75 |
| Max. Allowed Homogeneous Temperature (K): | 1,00 |
| Homogeneous Temperature Test Result: | Passed |

Fluctuation Band

| | |
|---|--------|
| Temperature Fluctuation (K): | 2,98 |
| Max. Allowed Temperature Fluctuation (K): | 4,00 |
| Temperature Fluctuation Test Result: | Passed |

Summary Report in Holding Time

| Sensor ID | Name | Fluctuation (°C) |
|-----------|-----------------|------------------|
| 11 | TA14940 - Ch 11 | 2,93 |
| 12 | TA14948 - Ch 12 | 2,98 |
| 13 | TA14934 - Ch 13 | 2,60 |
| 15 | TA14937 - Ch 15 | 2,66 |

Cooling Time

| | |
|--------------------------------|---------------------|
| Cooling Time Start: | 09-04-2007 22:23:37 |
| Cooling Time End: | 09-04-2007 22:28:23 |
| Cooling Duration: | 00:04:46 |
| Max. Allowed Cooling Duration: | 00:20:00 |
| Cooling Test Result: | Passed |

Lethality Calculation

| | |
|---|-----------|
| Min. Allowed Lethality Value in Process Time: | 11,00 |
| Max. Allowed Lethality Value in Process Time: | 18,00 |
| Lethality - Reference Temperature: | 121,11 °C |
| Min. Temperature for Lethality-Calculation: | 91,11 °C |
| Lethality - Z-Value: | 10 °C |

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Individual Analysis

| Name | Lethality value in Process Time | Lethality Status |
|-----------------------------|---------------------------------|------------------|
| Lethality - TC14941 - Ch 1 | 15,29 | Passed |
| Lethality - TC14945 - Ch 2 | 12,47 | Passed |
| Lethality - TC14935 - Ch 3 | 12,60 | Passed |
| Lethality - TC14939 - Ch 4 | 15,10 | Passed |
| Lethality - TC14944 - Ch 5 | 15,86 | Passed |
| Lethality - TC14933 - Ch 6 | 15,69 | Passed |
| Lethality - TC14938 - Ch 7 | 13,86 | Passed |
| Lethality - TC14936 - Ch 8 | 12,01 | Passed |
| Lethality - TC14947 - Ch 9 | 13,39 | Passed |
| Lethality - TC14946 - Ch 10 | 12,35 | Passed |
| Lethality - TC14942 - Ch 16 | 11,88 | Passed |

Process Time

| | | |
|------------------|-----------------------------|-------|
| Lethality Min.: | Lethality - TC14942 - Ch 16 | 11,88 |
| Lethality Max.: | Lethality - TC14944 - Ch 5 | 15,86 |
| Lethality Delta: | | 3,98 |

Lethality overview

| Sensor ID | Name | Lethality value in Come Up Time | Lethality value in Holding Time | Lethality value in Cooling Time |
|-----------|-----------------|---------------------------------|---------------------------------|---------------------------------|
| 1 | TC14941 - Ch 1 | 0,00 | 13,98 | 1,31 |
| 2 | TC14945 - Ch 2 | 0,00 | 11,31 | 1,17 |
| 3 | TC14935 - Ch 3 | 0,00 | 11,45 | 1,15 |
| 4 | TC14939 - Ch 4 | 0,00 | 13,88 | 1,22 |
| 5 | TC14944 - Ch 5 | 0,00 | 14,58 | 1,28 |
| 6 | TC14933 - Ch 6 | 0,00 | 14,57 | 1,12 |
| 7 | TC14938 - Ch 7 | 0,00 | 12,61 | 1,24 |
| 8 | TC14936 - Ch 8 | 0,00 | 10,92 | 1,09 |
| 9 | TC14947 - Ch 9 | 0,00 | 12,21 | 1,18 |
| 10 | TC14946 - Ch 10 | 0,00 | 11,17 | 1,18 |
| 16 | TC14942 - Ch 16 | 0,00 | 10,73 | 1,14 |

Come Up Time

| | | |
|------------------|----------------|------|
| Lethality Min.: | TC14941 - Ch 1 | 0,00 |
| Lethality Max.: | TC14941 - Ch 1 | 0,00 |
| Lethality Delta: | | 0,00 |

Holding Time

| | | |
|------------------|-----------------|-------|
| Lethality Min.: | TC14942 - Ch 16 | 10,73 |
| Lethality Max.: | TC14944 - Ch 5 | 14,58 |
| Lethality Delta: | | 3,85 |

Cooling Time

| | | |
|------------------|----------------|------|
| Lethality Min.: | TC14936 - Ch 8 | 1,09 |
| Lethality Max.: | TC14941 - Ch 1 | 1,31 |
| Lethality Delta: | | 0,22 |

| | | | |
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(1) Calculated End Holding Time exceeds limit set by the End Holding Time Marker

SAMPLE