

**SECTION A: ERROR DETAILS**

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| Bugzilla Error Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>BUG4445</b> |                    |             |
| Description of Error:<br><br>When a user volume is associated with solid node, the associated solid material specific heat value is always evaluated at 15 °C.                                                                                                                                                                                                                                                                                                                                                                                                                     |                |                    |             |
| Comments:<br><br>The temperature dependency of the solid material specific heat value is not taken into consideration correctly for a solid node with a user specified solid volume. This would lead to the incorrect transient response that would be more pronounced as the temperature dependency becomes larger. This item was addressed as part of removing the temperature dependent solid densities, without appreciating the impact and the specific change and its potential impact on the results were not described in the release notes of Flownex 2022 v 8.14.0.4675. |                |                    |             |
| First Incorrect Version:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8.12.5.4229    | Corrected Version: | 8.14.0.4675 |

**SECTION B: WORKAROUND**

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| Workaround Description:<br><br>This issue is addressed in the latest Flownex release (2022 v 8.14.0.4675). The only workaround in older Flownex versions would be to specify a constant representative specific heat value at the temperature where the solid material will be used, but since the current released version addresses the discrepancy it is recommended to update to the latest version of Flownex. |
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**SECTION C: SIGNOFF**

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|---------------------------------------|--------------------------------------------------------------------------------------|-------------|
| <b>Person Responsible for Fix:</b>    |                                                                                      |             |
| Eugene van Heerden                    |  | 2022/05/27  |
| <b>Name</b>                           | <b>Signature</b>                                                                     | <b>Date</b> |
| <b>Person Responsible for Review:</b> |                                                                                      |             |
| CH Dercksen                           |   | 2022/05/27  |
| <b>Name</b>                           | <b>Signature</b>                                                                     | <b>Date</b> |