



**ISO/TC 142/WG 9 "Particulate air filter intake systems for rotary machinery and stationary internal combustion engines"**

Convenorship: SIS

Convenor: Johansson Ulf Mr



## Comments and actions to N282

| Document type                              | Related content   | Document date | Expected action |
|--|---|---------------|-----------------|
| Meeting / Working documents for discussion | Meeting: <a href="#">VIRTUAL 14 Dec 2022</a><br>Project: <a href="#">ISO/CD 29461-3.2</a> | 2022-12-19    | <b>INFO</b>     |

### Description

Actions on comments on N282 from meeting no 25. See also minutes (N290)

## Comments on N282

### Air filter intake systems for rotary machinery – Test methods— Part 3: Mechanical integrity of filter elements

| No | Description                            | paragraph | Page | Comment   | by          | Action/Decision  |
|----|--|-----------|------|---|-------------|--|
| 1  | Reference to figure 3                  | 5.6       | 6    | "The dust injection nozzle(s) or tube(s) is (are) located as shown in Figure 3";<br>Wrong reference to figure, should be figure 2   | Ulf         | OK - change according to Figure 3  |
| 2  | Test procedure description             | 8         | 8    | Second sentence: "It is optional to test the efficiency according to ISO 29461-1 (in new state) on the same filter element as used for the burst test or with another element of the same type". Delete the "another element of same type". Either you have a type test on the filter or if not test the actual object. | Ulf         | OK, mandatory to test the clean testfilter according to ISO 29461-1                  |
| 3  | Test procedure description, references | 8         | 10   | Reference: ".....29461 test respectively failed according 2) or 3) above)."<br>Exchange 2) and 3) with 8.1.2 and 8.1.3  | Ulf         | OK to change references  |
| 4  | Scope, wording                         | 1         | 1    | "Nevertheless, it is within the liability of the user to define the maximum possible value (lower or higher) for a certain application and...." ; The correct word should be ability?   | Steve Hiner | OK change to "ability"   |
| 5  | Symbols and abbreviated terms          | 4         | 4    | There is no symbol and abbreviated terms, it should be populated  | Steve Hiner | OK - if no symbols or abbreviated terms are present, this chapter should be deleted. |
| 6  | Reference missing                      | 5.6       | 6    | "Any commercial dust feeder which is designed for air filter loading tests (e.g. ISO 16890-3, ISO 5011...)" ; Add ISO 5011 to section 2 (Normative references)  | Steve Hiner | ISO 5011 should be included to normative references                                  |
| 7  | Reference missing                      | 5.7       | 6    | "One or Two-Substance nozzle(s) capable of producing in total 10-160 g/min (=0,6 g/m³ @1000 m³/h – 1,2 g/m³ @8000 m³/h) mass flow of water (droplets) are recommended to be used (similar range like ISO 29461-2)" ;<br>Add ISO 29461-2 to section 2 (Normative references)   | Steve Hiner | OK, add the ISO 29461-2 to normative references                                      |

| No | Description                              | paragraph | Page | Comment  | by          | Action/Decision  |
|----|--|-----------|------|--|-------------|--|
| 8  | Loading Procedure                        | 8.4       | 12   | "Stop the test, deinstall the test filter and reweigh optional final filter (to at least 0,5 g accuracy). The mass increase of the final filter indicates the mass of dust that has passed the test filter if penetrated water can be neglected" ; The filter needs to be dried before it is weighted or this weight gain will be meaningless.                                       | Steve Hiner | Remove the weighing in the draft (not needed for the evaluation of Fail/Pass)  |
| 9  | Table 3, checklist for structural damage | 8.5.4     | 13   | Table 3, 6th row, 2nd column : "Verify with 8.5.42" ; Most of the mentioned structural damages do not need a test by 8.5.4.  | Steve Hiner | Rewrite part of the fail criteria to be more clear. Use most of the items in table 3 (the visual inspection) to describe what would be included in the report (observations) reporting. "The release of parts" is the "visual failure" reason.   |
| 10 | Pass and fail criteria                   | 8.5       | -    | Criteria 1: Did any object break free from the filter and be caught by a downstream grid?  | Joshua Kohn | See comment no 9   |
| 11 | Pass and fail criteria                   | 8.5       | -    | Criteria 2: Did dP drop by X% to create an opening that causes FOD risk? 5%? 10%? 20%?   | Joshua Kohn | See comment no 9   |
| 12 | Pass and fail criteria                   | 8.5       | -    | Criteria 3: Did qualifying efficiency term (ePM1 for T7-T9, MPPS for T10-T12, ePM2.5 for T6...) reduce at 6250 Pa from the initial value before any dustloading?<br>We expect a large increase during dustloading, so significant damage would be needed to cause a reduction. Dropping a class is not needed, only dropping the efficiency percentage vs initial is enough to fail. | Joshua Kohn | Change the wording so that it is referring to drop in efficiency - not only filter class. Note that "For pulse filters may behave differently due to its operation" (add information about the difference btw pulse filters and static filters - especially the vertical installed filters in real operating conditions) |
| 13 | Pass and fail criteria                   | 8.5       | -    | Clear statement in 8.5 :<br>(1) If a filter fails any of the 3 criteria, it fails.<br>(2) Filters can fail at any pressure, but only pass at 6250 Pa   | Joshua Kohn | Use two type of fails : (1)fail if release or dp fail (2) Fail due to efficiency drop of filter (compared with clean efficiency)   |
| 14 | Reporting results                        | 9         | -    | Record images every 500 Pa for observation only. We can list items (with severity: major vs minor) to be noted every 500 Pa for observation along with images.   | Joshua Kohn | Include that images (from camera) and observations shall be taken (at least every 500 Pa)  |
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