



**Group Report**  
**Round 69**  
**October 2019**



Asbestos In Materials Scheme

# Asbestos In Materials (AIMS) Scheme

This report is available to view on our website: <https://www.hsl.gov.uk/proficiency-testing-schemes/group-reports>

## Round 69 Sample Details

403 labs were assigned to Round 69 with 392 labs submitting complete results. All samples were prepared for circulation following our normal internal screening process and were scanned using stereozoom microscopy to assess homogeneity and suitability. Approximately 10% of all samples prepared were validated by 19 independent laboratories using either PLM or SEM analytical techniques.

The round consisted of four manufactured samples of materials that may contain asbestos and would typically be submitted for analysis at an asbestos testing laboratory. Sample 1 was a textured coating on wallpaper sample containing anthophyllite asbestos; Sample 2 was a painted board sample containing amosite asbestos within the paint layer; Sample 3 was a non-asbestos plaster sample containing leather fibres and Sample 4 was a cement containing amosite and chrysotile asbestos.

The majority of errors in this round involved sample 3 and the misidentification of the leather fibres contained within the plaster matrix. Leather fibres are listed in HSG248 as a fibre with morphological and optical properties similar to chrysotile asbestos. There are however subtle differences with leather fibres tending to have clearly visible uniform fibrils at low magnification (x100). Also, using the stereozoom microscope leather fibre will handle differently compared to chrysotile. If there is an element of doubt over the identification and leather is suspected analysts can ash the sample and then re-examine for the presence of asbestos.

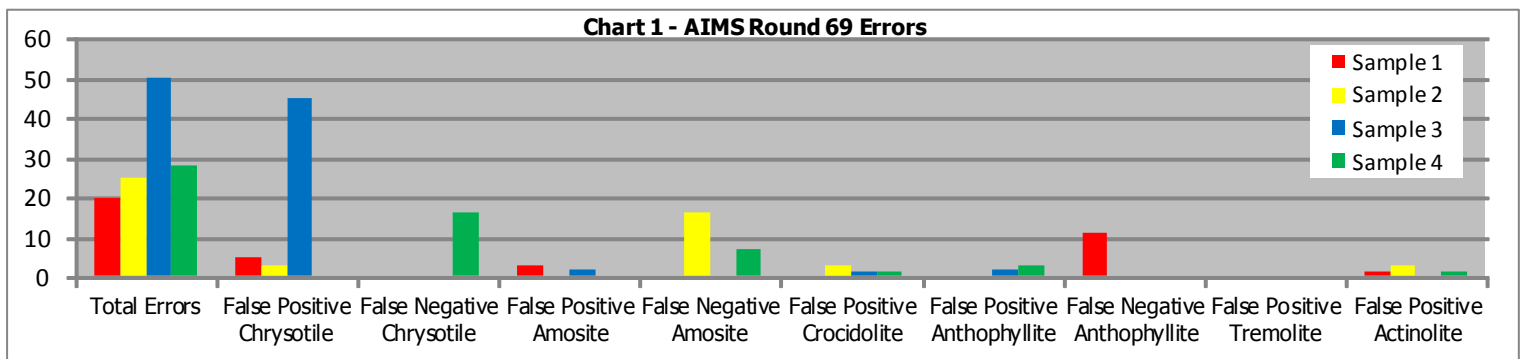
A number of errors also occurred with sample 4 with analysts failing to identify one of the two asbestos types present. Sample 4 was a manufactured cement sample containing amosite and chrysotile asbestos. Analysts should be thorough during analysis of samples, analysing the whole sample and be aware that samples may contain up to three asbestos types. Some commercial asbestos cement products were produced containing all three common asbestos types often in varying quantities and analysts need to be aware of this and thoroughly search samples for all asbestos types present.

| Sample | Validation Number | Product Type                    | Target Component     | Asbestos Present (%)           |
|--------|-------------------|---------------------------------|----------------------|--------------------------------|
| 1      | 295               | Textured Coating (Manufactured) | Anthophyllite        | 1% (in textured coating layer) |
| 2      | 296               | Painted Board (Manufactured)    | Amosite              | 0.04% (in paint layer)         |
| 3      | 297               | Plaster (Manufactured)          | No Asbestos          | N/A                            |
| 4      | 298               | Cement (Manufactured)           | Amosite & Chrysotile | 0.1% of each asbestos type     |



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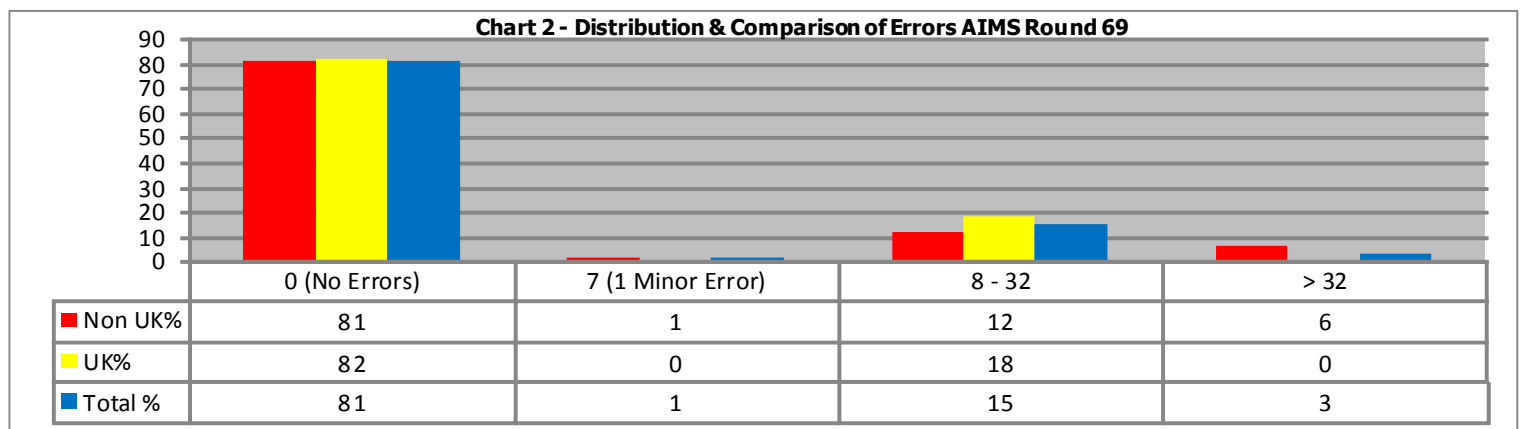
## 1. Type Of Errors Obtained



False Negative = Component has been missed. False Positive = Component has been incorrectly identified as present.

## 2. Round Scores

Chart 2 illustrates the distribution of scores for all participating laboratories. 319 (81%) laboratories obtained a score of zero in this round, indicating that these laboratories had not made any errors. The distribution of scores obtained by UK (United Kingdom) and Non-UK laboratories is also compared; 146 (82%) UK laboratories and 173 (81%) Non-UK laboratories obtained a score of zero for the round.





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Chart 3 shows the percentage distribution of cumulative three round scores for all UK and Non-UK laboratories. 24 laboratories (6%) in total had not yet completed 3 rounds and therefore did not accumulate a score. Following this round, 300 laboratories (75%) obtained a good cumulative score (0 – 7 penalty points cumulatively). 63 laboratories (15%) obtained an acceptable cumulative score (8 – 32 penalty points cumulatively) and 15 laboratories (4%) obtained an unsatisfactory cumulative score (33 or more penalty points cumulatively).

**Chart 3 - Distribution & Comparison of Cumulative Scores Following AIMS Round 69**

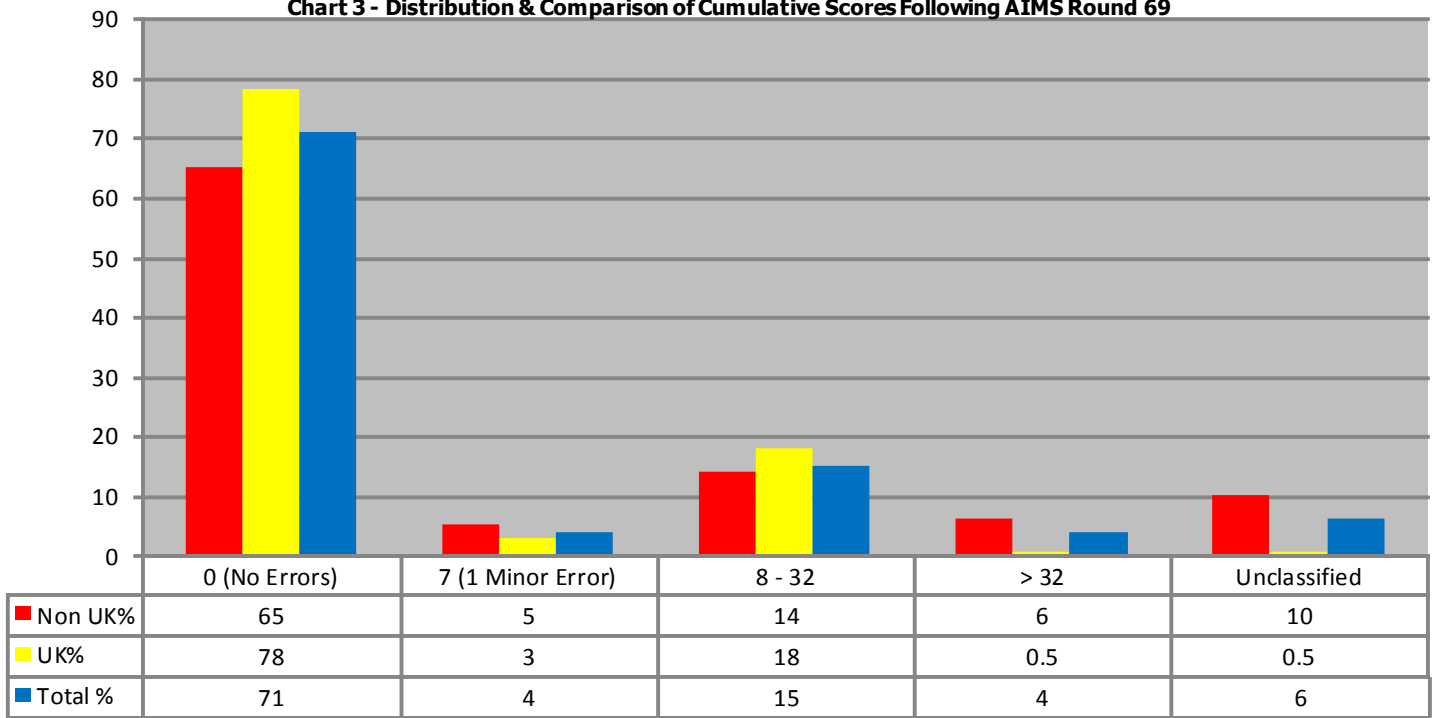
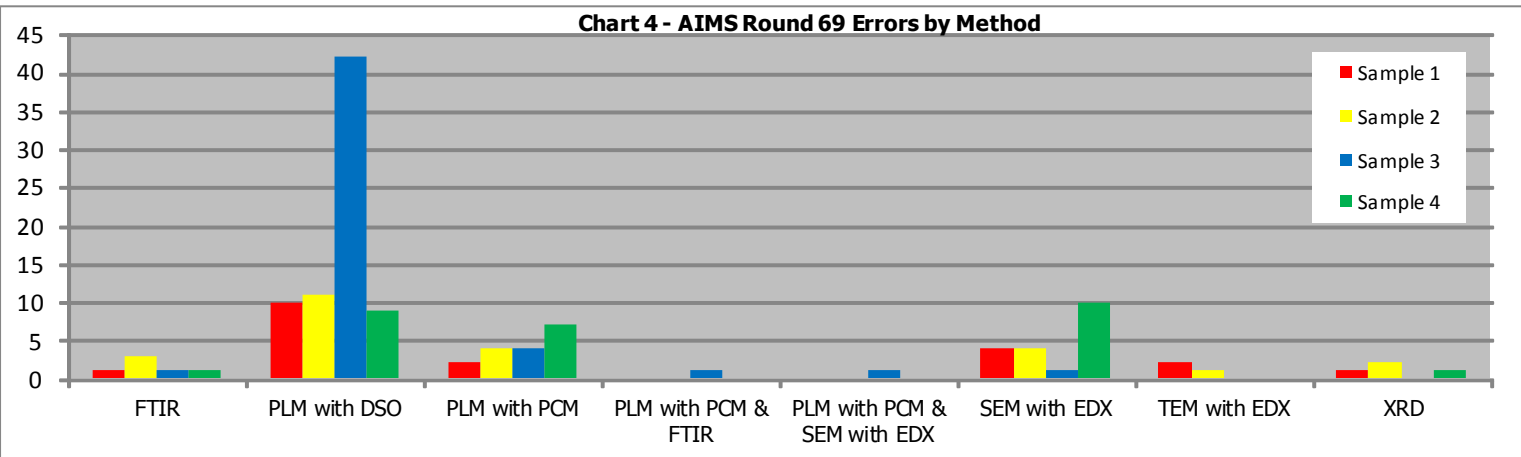


Chart 4 shows the number of errors made on each sample for all UK and Non-UK laboratories.

PLM - polarised light microscopy. DSO - dispersion staining objective. PCM - phase contrast microscopy, SEM - scanning electron microscopy. EDX - energy dispersive X-ray. TEM - transmission electron microscopy. FTIR - Fourier transform infra-red, XRD - X-ray diffraction.

**Chart 4 - AIMS Round 69 Errors by Method**



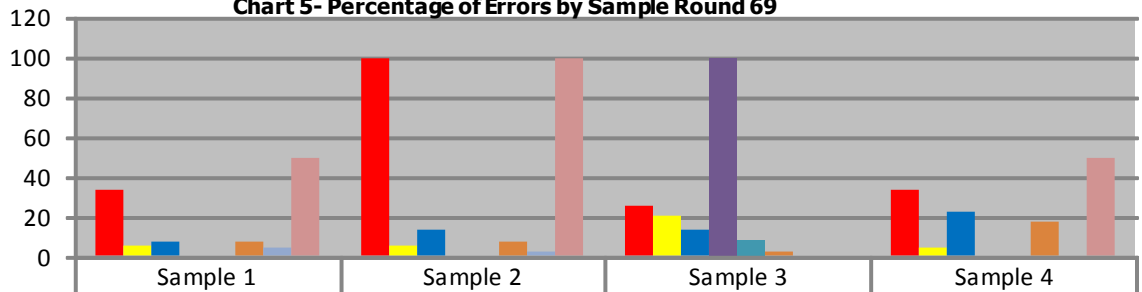


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Chart 5 shows the percentage of sample errors by method.

Of the 392 participating labs in R69 the method used in terms of the number of labs was as follows : FTIR, 3 labs; PLM with DSO, 213 labs; PLM with PCM, 29 labs; SEM with EDX, 61 labs; TEM with EDX, 47 labs; PLM with DSO & TEM with EDX, 23 labs; PLM with PCM & FTIR, 1 lab; PLM with PCM & SEM with EDX, 10 labs; Other, 3 labs and XRD, 2 labs.

Chart 5- Percentage of Errors by Sample Round 69



|                               | Sample 1 | Sample 2 | Sample 3 | Sample 4 |
|-------------------------------|----------|----------|----------|----------|
| ■ FTIR %                      | 33       | 100      | 25       | 33       |
| ■ PLM with DSO %              | 5        | 5        | 20       | 4        |
| ■ PLM with PCM %              | 7        | 13       | 13       | 22       |
| ■ PLM with PCM & FTIR         | 0        | 0        | 100      | 0        |
| ■ PLM with PCM & SEM with EDX | 0        | 0        | 8        | 0        |
| ■ SEM with EDX %              | 7        | 7        | 2        | 17       |
| ■ TEM with EDX %              | 4        | 2        | 0        | 0        |
| ■ XRD %                       | 50       | 100      | 0        | 50       |

### 3. For Your Information - AIMS NEWS !!

Following R68 there was one sample investigation - no results were amended following the HSE outcome.

If you are unable to view your individual report it may be that the scheme payment is outstanding. This is a polite reminder that reports and future samples will not be despatched until full payment has been received.

Due to the high number of errors due to the misidentification of fibres following this round we have leather fibres available to purchase. Please see our current AIMS QC order form for further information.

For laboratories who wish to replace the last round of AIMS, we have PT038R. Participants are able to replace one in three rounds of AIMS. If you wish to purchase any of our AIMS QC samples, please contact the PT Team for further information.

The next round of AIMS will be despatched week commencing 6th January 2020.

**Please note:** with immediate effect our email address has changed to [proficiency.testing@hse.gov.uk](mailto:proficiency.testing@hse.gov.uk)

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