Asbestos in Materials Individual Results : Round 082 : 082 AIMS R82

For Laboratory Number :	1640 CRB Analyse Service GmbH
Report Issued	19/06/2024 09:06:47
Report No.	082/252/17702/ 37633
Your Performance Score	0
Your Performance Classification	Good
Your Score This Round	0

Sample	Your Result	Assigned Result	Sample Score
1	No Asbestos	No Asbestos	0
2	No Asbestos	No Asbestos	0
3	Chrysotile	Chrysotile	0
4	Crocidolite	Crocidolite	0
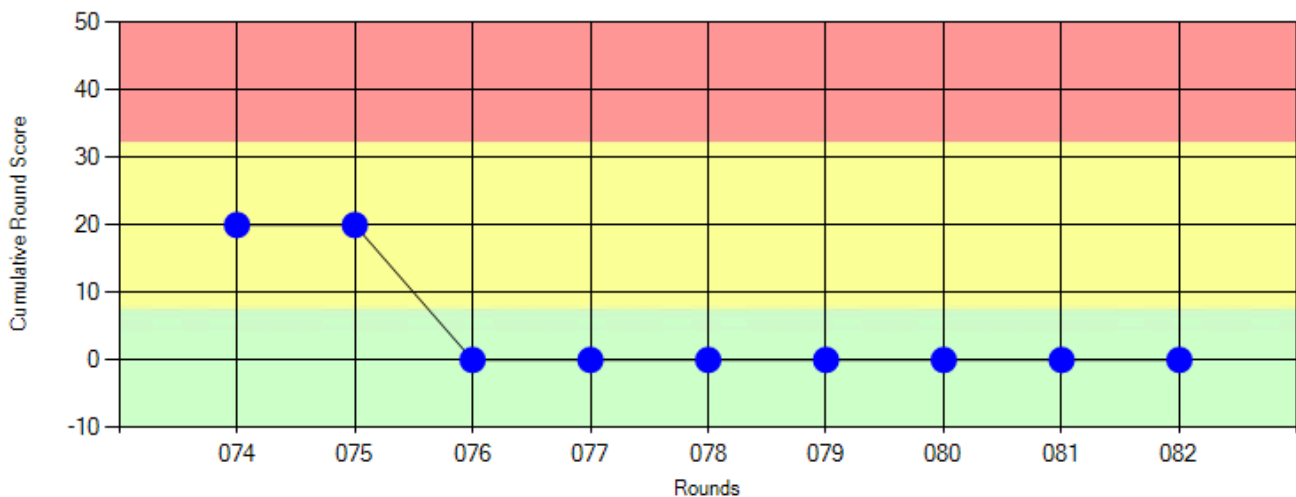
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HSE
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Fibres Team
Final Report

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FTPT F0903   **ISSUE 5**   Page 1 of 1

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 82 Sample Details

365 labs were assigned to Round 82 with 357 laboratories 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 manufactured non-asbestos painted plasterboard sample containing viscose and wood flour fibres in the paint layer; Sample 2 was a manufactured non-asbestos plaster sample containing leather and wollastonite fibres; Sample 3 was a manufactured bitumen felt sample containing 0.3% chrysotile asbestos in the bitumen paint layer and Sample 4 was a manufactured mortar sample containing 0.3% crocidolite asbestos.

The majority of errors in Round 82 occurred on Sample 2 and Sample 3 where a number of labs misidentified the leather fibre as chrysotile in Sample 2 and missed the chrysotile in Sample 3. For Sample 2 as listed in paragraph A2.62 of HSG248 Asbestos: The Analysts' Guide there are a few observations and techniques that can be used to differentiate leather from chrysotile. "*At low magnification (100x) leather will usually have clearly visible uniform fibrils, whereas chrysotile fibrils are too small to be seen by PLM, hence the non-uniformity of the fibre bundles. Leather swarf mounted in RI liquid 1.550 is readily visible in plane polarised light because it is not completely transparent, whereas chrysotile similarly mounted would be barely visible. In most instances the differences between leather and chrysotile can be detected during examination with the stereo-microscope. If leather is suspected as being present then the sample can be ashed at 400°C.*" Within Sample 3 the chrysotile fibres were very finely dispersed in the bitumen paint layer. As detailed in HSG248 paragraph A2.21 the use of solvents and/or RI liquid to dissolve the bitumen could help analysts reveal any fibres present.

Sample	Validation Number	Product Type	Target Component	Asbestos Present (%)	Other Added Fibres Present
1	349	Painted Plasterboard (Manufactured)	No Asbestos	N/A	Viscose and wood flour
2	350	Plaster (Manufactured)	No Asbestos	N/A	Leather and wollastonite
3	351	Bitumen Felt (Manufactured)	Chrysotile	0.3% (in the bitumen paint layer)	None
4	352	Mortar (Manufactured)	Crocidolite	0.3%	None

Asbestos In Materials (AIMS) Scheme
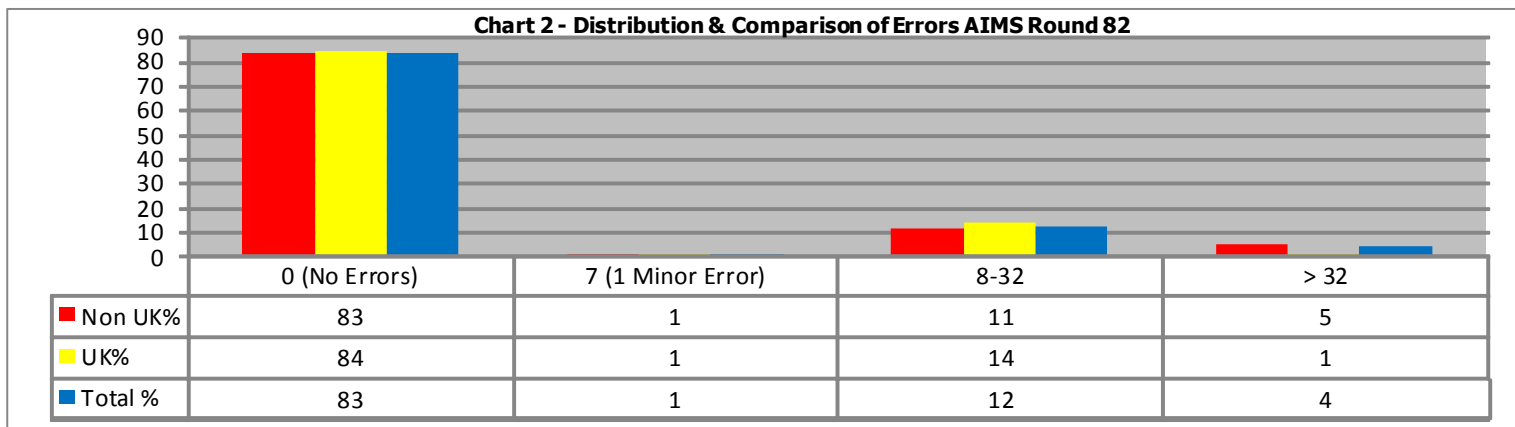
1. Type Of Errors Obtained

Chart 1 - AIMS Round 82 Errors
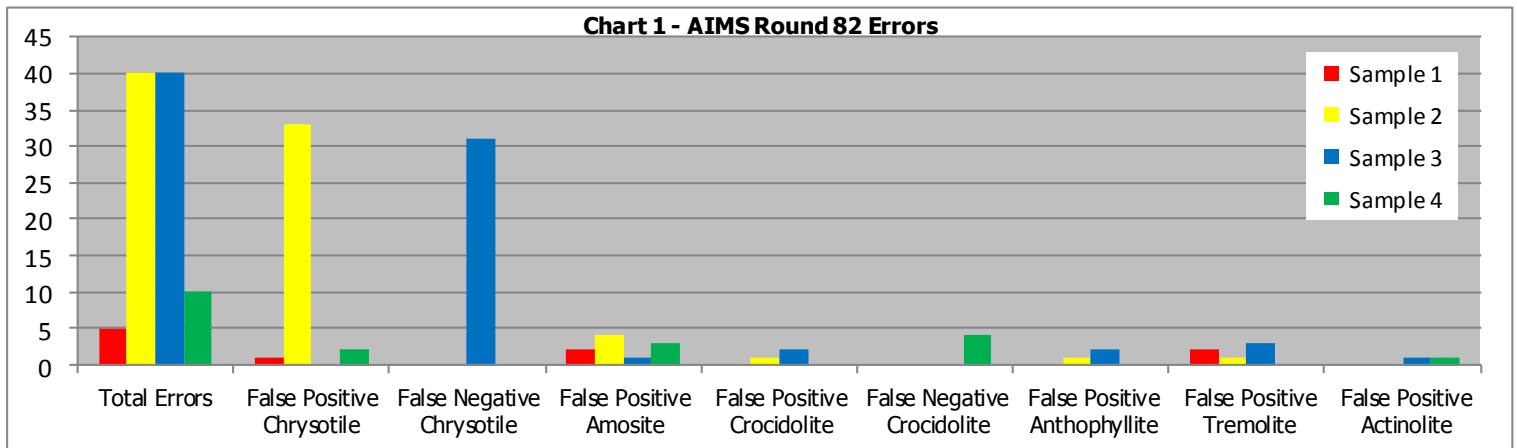
False Negative = Component has been missed. False Positive = Component has been incorrectly identified as present.

2. Round Scores

Chart 2 illustrates the distribution of scores for all participating laboratories. 298 (83%) 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; 128 (84%) UK laboratories and 170 (83%) Non-UK laboratories obtained a score of zero for the round.

Chart 2 - Distribution & Comparison of Errors AIMS Round 82

	0 (No Errors)	7 (1 Minor Error)	8-32	> 32
Non UK%	83	1	11	5
UK%	84	1	14	1
Total %	83	1	12	4

Asbestos In Materials (AIMS) Scheme

Chart 3 shows the percentage distribution of cumulative three round scores for all UK and Non-UK laboratories. 29 laboratories (8%) in total had not yet completed 3 rounds and therefore did not accumulate a score. Following this round, 269 laboratories (74%) obtained a good cumulative score (0 – 7 penalty points cumulatively). 49 laboratories (13%) obtained an acceptable cumulative score (8 – 32 penalty points cumulatively) and 18 laboratories (5%) obtained an unsatisfactory cumulative score (33 or more penalty points cumulatively).

Chart 3 - Distribution & Comparison of Cumulative Scores Following AIMS Round 82

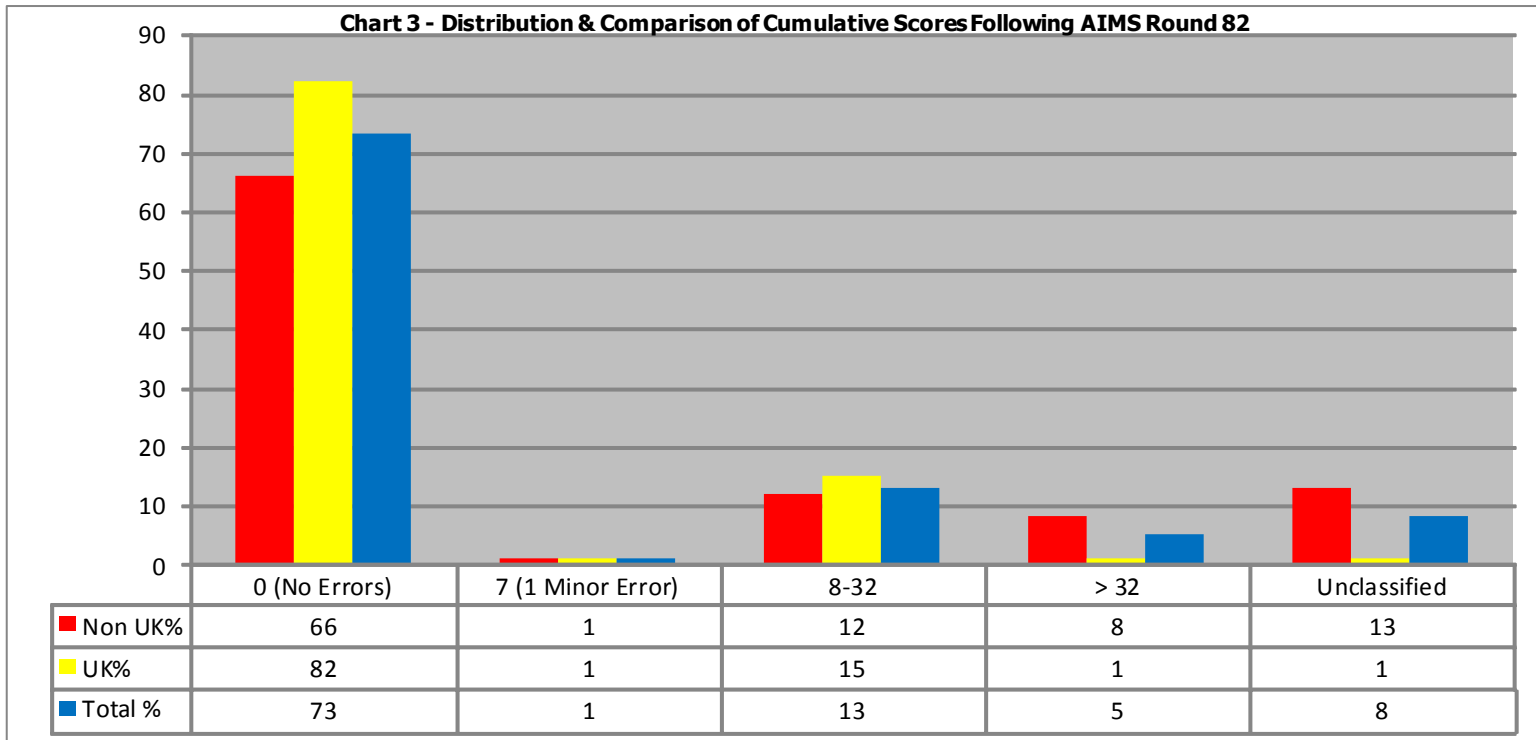|	0 (No Errors)	7 (1 Minor Error)	8-32	> 32	Unclassified
Non UK%	66	1	12	8	13
UK%	82	1	15	1	1
Total %	73	1	13	5	8

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. XRD - X-Ray diffraction.


Chart 4 - AIMS Round 82 Errors by Method
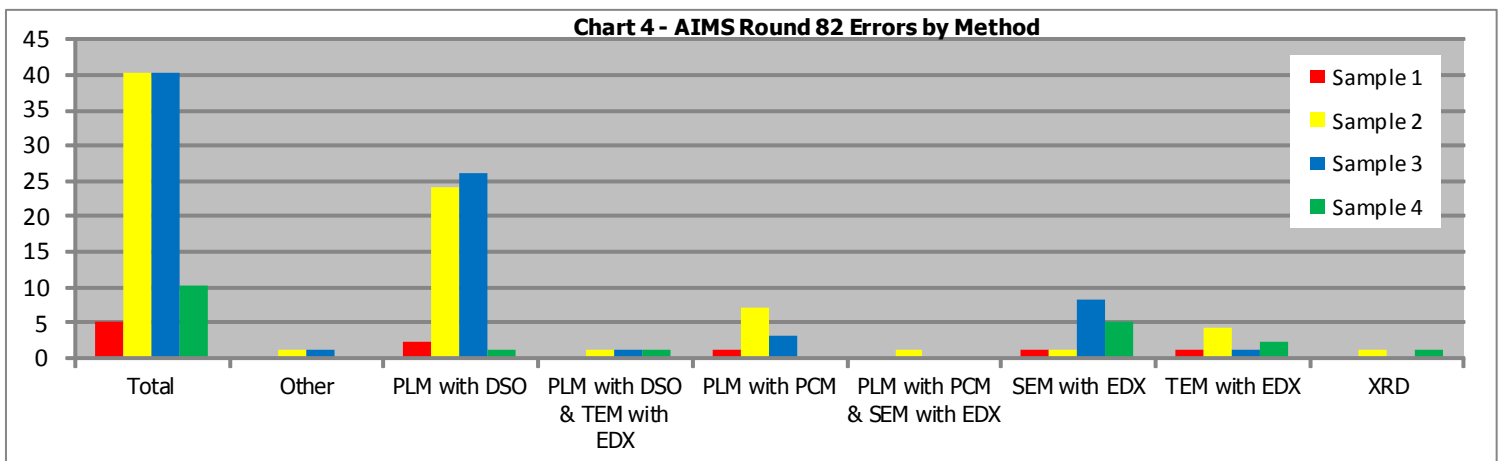
Asbestos In Materials (AIMS) Scheme

Chart 5 shows the percentage of sample errors by method.

Of the 357 participating labs in R82 the method used in terms of the number of labs was as follows : FTIR, 3 labs; PLM with DSO, 181 labs; PLM with PCM, 32 labs; SEM with EDX, 63 labs; TEM with EDX, 23 labs; PLM with DSO & TEM with 31 labs; PLM with PCM & SEM with EDX, 8 labs; PLM with PCM & TEM with EDX, 12 labs, XRD; 1 lab and Other, 3 labs.

Chart 5- Percentage of Errors by Sample Round 82
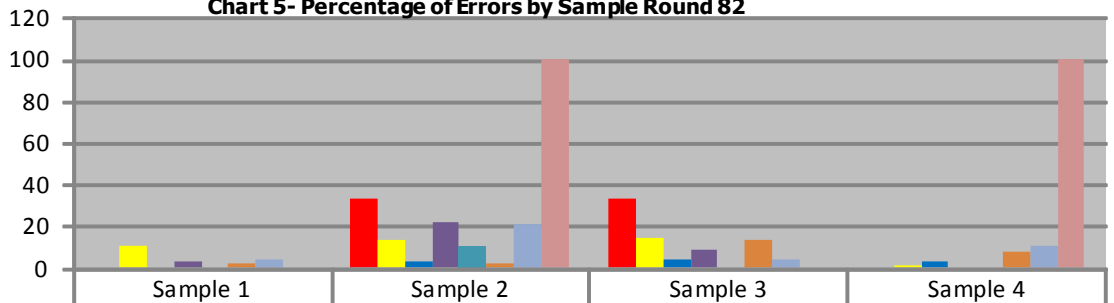
	Sample 1	Sample 2	Sample 3	Sample 4
■ Other %		33	33	
■ PLM with DSO %	11	13	14	1
■ PLM with DSO & TEM with EDX %		3	4	3
■ PLM with PCM %	3	22	9	
■ PLM with PCM & SEM with EDX %		11		
■ SEM with EDX %	2	2	13	8
■ TEM with EDX %	4	21	4	11
■ XRD %		100		100

3. For Your Information - AIMS NEWS !!

Our annual UKAS reassessment took place in May 2024. We received three minor findings which have now been actioned and closed. The team were also successful in being granted accreditation to the new ISO17043:2023 on the first attempt - with only one minor non-compliance requiring action.

Following R81 there was one sample investigation request. If you require a sample to be investigated by HSE please contact the team within 10 working days of the report being issued. Further details regarding sample investigations can be found in our Information Book for Participants, available in the Useful Links Section of our website page: https://www.hsl.gov.uk/proficiency-testing-schemes/aims

We have a wide range of quality control samples available to purchase, including additional rounds (PT038A) to help gain accreditation sooner, replacement rounds (PT038R) to replace the latest round of AIMS and past AIMS samples (PT040) for internal QC/ training. Water absorption samples (PT046) and asbestos aggregate samples (PT047/8) are also available: https://www.hsl.gov.uk/proficiency-testing-schemes/pt-quality-control-samples

5254

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