



Report
Round 64
February 2018



Asbestos In Material Scheme

Asbestos In Materials (AIMS) Scheme

Round 64 Sample Details

383 labs were assigned to Round 64 with 374 labs submitting results. All samples were prepared for circulation following our normal internal screening process and were scanned using stereo-zoom microscopy to assess homogeneity and suitability. Approximately 10% of all samples prepared were validated by 15 independent laboratories using either PLM or SEM analytical techniques. All validation labs identified all asbestos components present in the samples and no additional asbestos components were identified.

The round consisted of three manufactured samples and one commercial sample of materials that may contain asbestos and would typically be submitted for analysis at an asbestos testing laboratory. Sample 1 was a board containing chrysotile asbestos and brucite within the surface paint layer; Sample 2 was a cement containing crocidolite, amosite and chrysotile asbestos; Sample 3 was a textured coating sample containing amosite asbestos within the textured coating layer and Sample 4 was a commercial string sample containing chrysotile asbestos.

A number of errors were made in this round by labs on Samples 1, 2 and 3. Most of the errors on Sample 1 were due to labs failing to identify the chrysotile although a few identified amphibole asbestos possibly due to misidentifying the brucite. Although fibrous the brucite lacks the tensile strength of asbestos, is brittle and soluble in acid. It can be distinguished from asbestos by its RIs which are in the range 1.560 to 1.590 parallel to the fibre and 1.580 to 1.600 perpendicular to the fibre. The majority of errors on Sample 2 were due to labs failing to identify the amosite. This highlights the need to break the sample and thoroughly analyse all fibres found. Typically, commercial cement samples contained chrysotile but can contain all three main asbestos types in varying quantities so analysts need to be thorough during analysis in order to identify all the asbestos types contained. Most of the errors on Sample 3 were due to labs failing to identify the amosite. Textured coating can be a difficult material to analyse and if no fibres can be teased out from the textured coating itself then dilute acetic or hydrochloric acid can be used to dissolve the textured coating leaving any asbestos fibres which may then require washing with water or rinsing with acetone before analysis.

Sample	Validation Number	Product Type	Target Component	Asbestos Present (%)
1	275	Board (Manufactured)	Chrysotile	1%
2	276	Cement (Manufactured)	Crocidolite, Amosite & Chrysotile	0.1% each asbestos type
3	277	Textured Coating (Manufactured)	Amosite	0.7%
4	278	String (Commercial)	Chrysotile	Unknown



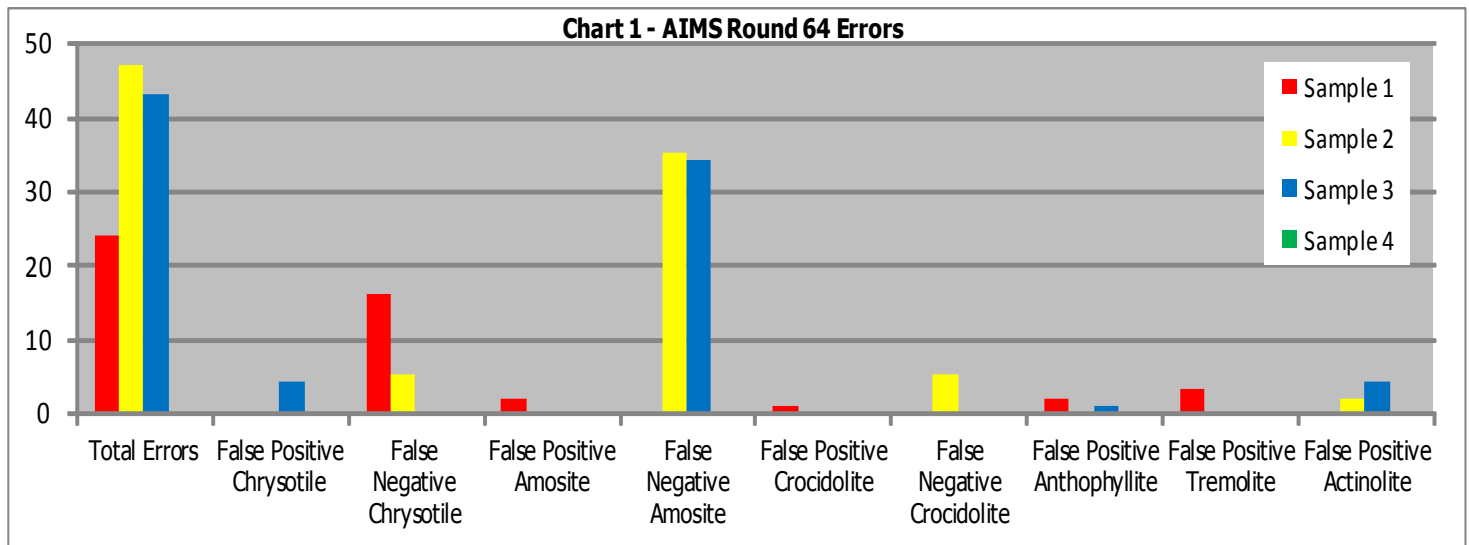
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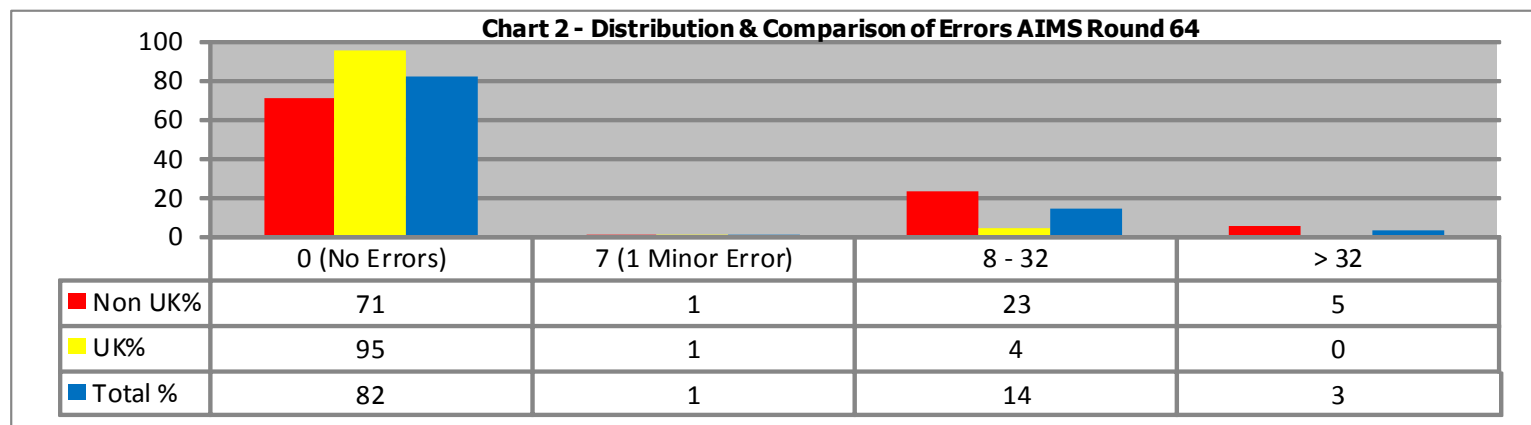
1. Type Of Errors Obtained



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. 307 (82%) 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; 168 (95%) UK laboratories and 139 (71%) 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. 30 laboratories (8%) in total had not yet completed 3 rounds and therefore did not accumulate a score. Following this round, 265 laboratories (69%) obtained a good cumulative score (0 – 7 penalty points cumulatively). 68 laboratories (18%) obtained an acceptable cumulative score (8 – 32 penalty points cumulatively) and 20 laboratories (5%) obtained an unsatisfactory cumulative score (33 or more penalty points cumulatively).

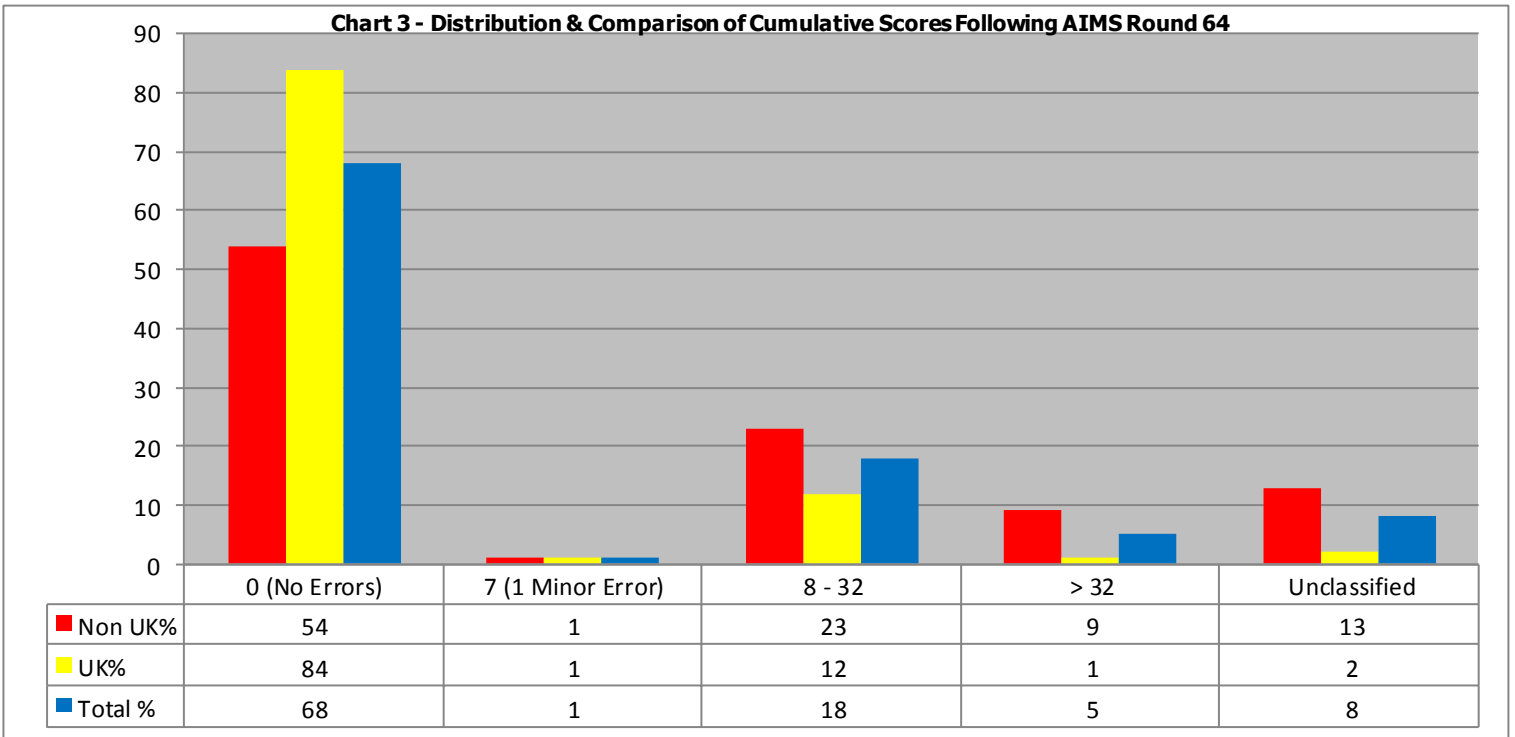
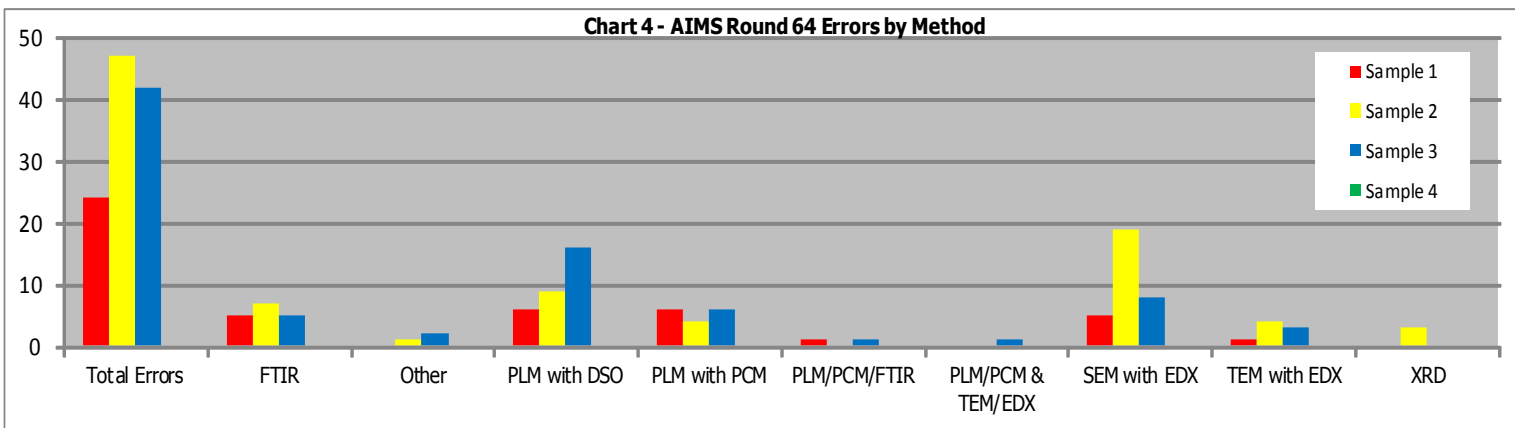


Chart 4 shows the number of errors made on each sample for all UK and Non-UK laboratories.

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.





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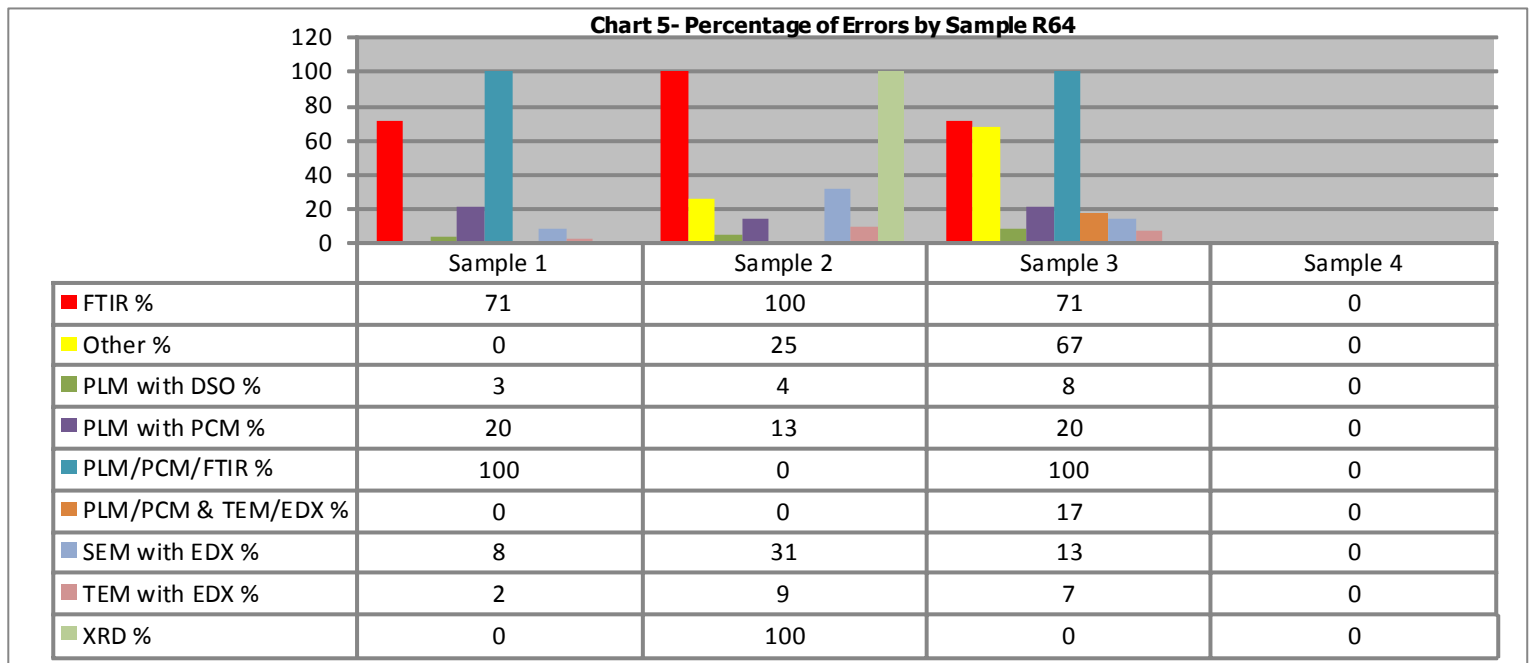


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Chart 5 shows the percentage of sample errors by method.

Of the 374 participating labs in R64 the method used in terms of the number of labs was as follows (one lab used different methods on different samples): FTIR, 7 labs; PLM with DSO, 205 labs; PLM with PCM, 30 labs; SEM with EDX, 61 labs; TEM with EDX, 44 labs; PLM with DSO & TEM with EDX, 17 labs; PLM with PCM & FTIR, 1 lab; PLM with PCM & TEM with EDX, 6 labs; XRD, 1 lab and Other method, 3 labs.



3. For Your Information - AIMS NEWS !!

Our AIMS QC promotional order form is available until 31st March 2018. Following completion of this round, brucite has been added at an introductory price - a copy has been sent to all participants by email. Please note the brucite samples contain small amounts of chrysotile occurring as natural contamination.

Thank you to everyone who completed the SurveyMonkey Questionnaire ... results are now available on our website:
<https://www.hsl.gov.uk/proficiency-testing-schemes/participant-feedback>

There were no samples returned for investigation following the previous round (R63).

Subscription forms are now available on the PT Online Data Entry System - thank you to everyone who has subscribed so far. Invoices will be issued within the next few weeks - please note, if you have selected to pay by debit/ credit card or by BACS, a receipt will be sent but no invoice will be issued. If you require an invoice, please email the PT team with your HSL PT Lab number.

The next AIMS round is due to be despatched week commencing 30th April 2018.

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