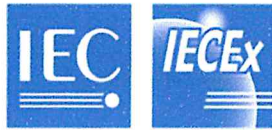


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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INTERNATIONAL ELECTROTECHNICAL COMMISSION SCHEME FOR
CERTIFICATION TO STANDARDS IN EXPLOSIVE ATMOSPHERES
(IECEX SCHEME)**

TITLE: ATEX/IECEX Quality Assessment Report for Manufacturers.

This document provides an IECEX QAR and ATEX QA Notification Report format for assessment of manufacturers. Guidance for assessment is provided in OD-025 and requirements for preparation of QAR are given in OD-009.

This Document provides a standardised Report format for the recording of assessments of Ex Manufacturers for compliance with the requirements of the following:

BS EN ISO/IEC 80079-34:2011 – Application of Quality Systems for equipment manufacture.

IECEX Operational Document OD 025 – Guidelines for the management of assessment/surveillance of quality management systems in accordance with the IECEX Scheme.

This QAR is applicable to initial assessment, any necessary follow-up assessments, and special assessment of manufacturers.

While primarily intended for use by auditors of certified product manufacturers, it may also be used by manufacturers themselves or when conducting internal assessments for compliance with the relevant requirements.

It is not valid until signed by SGS Baseefa and this is only done when any nonconformities have been cleared. Once completed, in order to be valid for IECEX purposes, this QAR must be registered on the IECEX "On-Line" Certificate of Conformity website system. Refer to OD 011 Part 2 for guidance.

Document History

Date	Revision	Summary
2008 05	A	Original Issue (Version 1) Modified by Baseefa to allow use for ATEX QA Notification assessment reports and to incorporate surveillance assessments as well as initial/re-assessments.
2008 12	B	Revised to improve usability and presentation only.
2009 01	C	Removal of unused sections and minor editing.
2009 12	D	Addition of boxes for Ex products as a % of total output, additional concepts, Guidance on content of Summary, guidance on routine testing.
2012 02	E	Updated following issue of BS EN ISO/IEC 80079-34:2011
2013 07	F	Updated to reflect new name, SGS Baseefa Limited

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Manufacturer (Auditee)

Hansford Sensors Limited

Address

Include postcode/zipcode
List additional sites in Section 1

Artisan
Hillbottom Road
Sands Industrial Estate
High Wycombe
Buckinghamshire
HP12 4HJ

Manufacturing Site audited

List all additional sites

As above

Product (Range)

See attached list of Certificates.

Ex products as % of overall 20

Number of Employees

Include total number of employees on site
Include personnel in Ex production areas

Total	45
No. involved in Ex products	10

Scope of Assessment

Initial assessment	<input type="checkbox"/>
Re-assessment	<input type="checkbox"/>
Surveillance	<input checked="" type="checkbox"/>
Special Assessment	<input type="checkbox"/>

List all applicable Ex Certificates, (or attach addendum, marked up to show any required changes) to which this audit applies.

See attached list of Certificates.

Equipment with type(s) of protection

d	<input type="checkbox"/>	i	<input checked="" type="checkbox"/>	e	<input type="checkbox"/>	p	<input type="checkbox"/>	m	<input type="checkbox"/>	o	<input type="checkbox"/>
q	<input type="checkbox"/>	nA	<input type="checkbox"/>	nL	<input type="checkbox"/>	nR	<input type="checkbox"/>	nC	<input type="checkbox"/>	t	<input checked="" type="checkbox"/>
		Gas detector performance							Flame arrest		
fr	<input type="checkbox"/>	d	<input type="checkbox"/>	c	<input type="checkbox"/>	b	<input type="checkbox"/>	p	<input type="checkbox"/>	k	<input type="checkbox"/>
		Fans		<input type="checkbox"/>	Petrol Disp.		<input type="checkbox"/>	Spray equip.		<input type="checkbox"/>	
		Protective systems				<input type="checkbox"/>	Other		<input type="checkbox"/>	<input type="checkbox"/>	

Quality Management System Audit requirements

BS EN ISO/IEC 80079-34:2011

Assessment Team Leader

David Ford

Auditing Organisation

SGS Baseefa Ltd

Report Date

07/01/2019

Contents:

1. Summary Report
2. Audit information
3. Documentation Review and Assessment of Implementation
4. Observations/notes

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1. Summary Report

1.1 Assessment Summary and Conclusions:

The Hansford Sensors Ltd, High Wycombe facility specialises in the manufacture of accelerometers and monitoring systems.

Since the previous audit Callum Irvine has left the organisation and Alec Aldridge has joined the organisation as the Quality Manager.

The Management System (MS) is certified to ISO9001:2015. The company is also subject to several external third-party audits regarding product approvals.

The MS is written to meet the requirements of ISO/IEC 80079-34 and ATEX Directive 2014/34/EU. The QMS has had some minor changes since the last visit to implement appropriate changes or additions identified in observations from the previous audit.

The products are mature in nature and the understanding within the company of hazardous area products is good. Product controls regarding compliance with Ex Certificates were seen to be generally well planned and implemented including subcontracted items and activities.

Several observations were made which were considered as needing review. These observations were not considered to be non-conformances now but may lead to non-conformities in the future.

The recommendation of the audit is that the QAR/QAN is to be maintained following receipt of satisfactory documentary evidence supporting effective corrective action. Corrective action to be verified at the next reassessment visit.

1.2 Next Quality Audit

Next Quality Audit is due on:

01/07/2020

Re-assessment
Surveillance assessment

X

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1.3 Critical Suppliers / Sub Suppliers (Describe the extent of the use of subcontractors as opposed to internal manufacture)

Development of product, assembly, marking, inspection, testing and calibration activities are undertaken at the Hansford Sensors Ltd, High Wycombe facility.
The manufacture of machined components, manufacture and population of printed circuit boards and the supply of electronic components are subcontracted.

1.4 Non-Conformities (NCRs)

01/19/1 (1 off)

1.5 Assessment Team Leader Recommendations

(Delete where not applicable)

QAR/QAN to be issued/maintained. System is compliant with BS EN ISO/IEC 80079-34. QAR to be registered on the IECEX on line system at www.iecex.com (when required)

QAR/QAN to be issued/maintained following receipt of satisfactory documentary evidence supporting effective corrective action. Corrective action to be verified at next surveillance visit. QAR to be registered on the IECEX on line system www.iecex.com (when required)

QAR/QAN to be issued/maintained following a satisfactory follow-up visit and verification that corrective actions have been effectively documented and implemented

QAR/QAN to be issued indicating that quality system no longer meets the requirements of BS EN ISO/IEC 80079-34. (This may require suspension or cancellation of any IECEX certificates)

Assessment Team Leader
Sign to authorise recommendations and QAR

Date:
(DD/MM/YEAR)

07/01/2019

Report approved by Certification Body

M POWNEY
Certification
Manager

Certification Body Representative

08/05/2019
Date:
(DD/MM/YEAR)

Print name and sign to accept Assessment Team Leader recommendations and QAR

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2 Audit Information

2.1 Scope of Assessment:

- Type A initial assessment/reassessment of manufacturer with a certified QMS*
- Type B initial assessment/reassessment of manufacturer without a certified QMS
- Surveillance visit of manufacturer with a certified QMS*
- Surveillance visit of manufacturer without a certified QMS
- Other: eg Special or Follow up Visit

X

*Where manufacturer has a certified quality system, include certification/registration body, date of registration, certificate No. and scope or append a copy of the certificate (including scope)

2.2 Date(s) and Duration of Assessment

Include total number of auditor days on site

07/01/2019
1 Day

2.3 Composition of Assessment Team:

Name	Position	Role in Assessment (Sole Assessor, Team Leader, Assessor, Technical Specialist, etc)
David Ford	Baseefa Assessor	Sole Assessor

2.4 Interviewed Representatives of Manufacturer (Auditee):

See attached Form F18

2.5 Routine testing assessed

Testing

Confirm capability to conduct test(s), if applicable.

500V HIPOT Dielectric Strength/Isolation Testing.

2.6 Critical Suppliers

List critical suppliers reviewed during assessment of supplier evaluation.

Name of Supplier	Critical item or service provided
Electronic Manufacturing Solutions Ltd Fountain House South Horizon West Canal View Road Newbury RG14 5XF	The manufacture and population of printed circuit boards ISO 9001:2015 Certifier: Intertek Certification Limited, UKAS 014, Certificate No 042058, Expires 25th February 2019 (recently moved Premises from Thatcham to Newbury)
Euro-Tech (Export) Ltd 518 Purley Way Croydon Surrey CR0 4RE	The supply of electronic components (including critical items) ISO 9001:2015 Certifier: Bureau Veritas Certification, UKAS 0008, Certificate No UK008455, Version 2, Expires 26th March 2020

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3 Documentation Review and Assessment of Implementation

BS EN ISO/IEC 80079-34 clauses

Items marked** have additional requirements to ISO 9001 contained within BS EN ISO/IEC 80079-34. (Y, N or N/A)

Assessed Manufacturer's Doc. Ref. and comments

List manufacturer's document(s) viewed, with revision status and comments.

List any pertinent details / compliance with requirements of clause and comments of the Assessor.

4	Quality Management System		
4.1**	General requirements	Y	The last assessment by Lloyd's Register Quality Assurance was undertaken over the 19 th September 2019 and indicated that the Quality Management System continues to demonstrate compliance with the requirements of ISO9001:2015. One minor non-conformance was raised. The next visit is scheduled for June 2019. QMO Section Quality Policy; contains the objective to provide product in compliance with EC Type Certificates and IEC Certificates of Conformity.
4.2.1	Documentation requirements – General	Y	The Quality System includes ISO/IEC 80079-34 and ATEX Directive 2014/34/EU requirements.
4.2.2	Quality Manual	Y	The Hansford Sensors Limited Quality Manual Overview (QMO), QM01, Issue 4, 16th October 2018. The QM contains policies, objectives and includes a description of the organisation and is a paperless electronic version on the company intranet. It is supported by procedures and detailed work instructions where necessary.
4.2.3**	Control of documents	Y	The control of documents procedures is documented in QM05 – Control of Information, Documents and Records, Issue 2, QM23 – Product Variance and Changes, Issue 1 and QF105 – Standard documents held. Original certification documents are held by the Engineering Department. The last annual review of Ex related Certificates, Standards, regulations and other external specifications was undertaken on 27th December 2018.
4.2.4**	Control of records	Y	The Control of Quality Records procedures are documented in QM05 – Control of Information, Documents and Records, Issue 2 and QM13 – Production Process, Issue 2.
5.	Management Responsibility		
5.1	Management commitment	Y	
5.2	Customer focus	Y	
5.3	Quality Policy	Y	QMO Section Quality Policy, 4th December 2018.
5.4**	Planning & Quality objectives	Y	QMO Section – Quality Management System; documents that the Management System includes the requirements of standard ISO/IEC 80079-34. QM02 – Business Leadership and Reviews, Issue 3, Section – Legislation; documents that the requirements of the ATEX Directive 2014/34/EU are implemented.
5.5**	Responsibility, authority, internal communications	Y	The Managing Director - Chris Hansford; is the "Authorised Person" for ATEX products. The defined responsibilities are shared with the Operations Director, The Mechanical Engineer and Production Supervisor. The defined responsibilities are documented in QM Section – Responsibility and Authority and Appendix 1.
5.6**	Management review	Y	Management review procedures are documented in QM02 – Business Leadership and Reviews, Issue 3. The last Management Review was undertaken on 24th July 2018, the correct management personnel were present, and the review included the effectiveness of the quality management system with respect to Ex products.

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5943 - Hansford Sensors Limited**BS EN ISO/IEC 80079-34 clauses**Items marked** have additional requirements
to ISO 9001 contained within BS EN ISO/IEC
80079-34. (Y, N or
N/A)**Assessed Manufacturer's Doc. Ref. and comments**List manufacturer's document(s) viewed, with revision status and
comments.
List any pertinent details / compliance with requirements of
clause and comments of the Assessor.

6. Resource Management			
6.2**	Human Resources	Y	Human Resources procedures are documented in QM03 - Training and Competence, Issue 4; QF87 - Training Matrix, Issue 17, December 2018 was reviewed; The Matrix (<i>Excel Spreadsheet</i>) includes production, Production Admin, Engineering, General Stores, Dispatch, Sales Support Team and Development Tabs. Product specific training documents were available for review.
6.3	Infrastructure	Y	The Hansford Sensors Ltd, High Wycombe facility is adequately equipped for the activities undertaken.
6.4	Work environment	Y	The work environment is tidy and adequately lit.
7. Product Realisation			
7.1	Planning of product realisation	Y	
7.2**	Customer related processes	Y	Customer related processes are documented in QM10 – Sales & Order Processing, Issue 1. The Ex Product Equipment Group and Protection Concept appear on order acknowledgements e.g. Sales Order 33392 for end customer: GVS Reliability Products Pty Ltd.
7.3**	Design and development	Y	QM23 – Product Variance and Changes, Issue 1, Section – Design Change Process; requires the Managing Director or Operations Director to approve any changes to ATEX Related Drawings provided that compliance with the Scheduled Drawings is maintained.
7.4**	Purchasing	Y	Purchasing procedures are documented in QM11 – Purchasing, Issue 1 and QM12 – Stock Control and Kitting, Issue 1. Suitable vendor assessment documentation (ISO9001 Certification) was reviewed. Suitable purchase orders are placed on vendors. Acceptable Certificates/Declarations of Conformity are received from vendors. Sampling plans are not used for the verification of purchased Ex product Observation a)
7.5**	Production and service operations	Y	Production and service operations are documented in QM13 – Production Process, Issue 2. Manufacturing documents are in place in the manufacturing area to control Ex product operations. These are comprehensive with some colour photographs detailing production and assembly operations. Works Order 70289 (Sales Order 33603) for (10 off) Part HS-manufactured to Ex Certificates: Baseefa08ATEX0086X & IECEX BAS 08.0034X was subject to review. Data Sheet TS065 – HS-4221/M Intrinsically Safe Accelerometer, Revision A (<i>Contains Specific Conditions of Use</i>) EU Declaration of Conformity for Ex Certificate Baseefa08ATEX0086X (QF042-003, Issue Q). Observation b) Observation c) Observation d)
7.6**	Control of monitoring and measuring devices	Y	The control of monitoring and measuring devices used to verify Ex features of component parts and assemblies are documented in QM16 – Calibration, plant and equipment control, Issue 1. Acceptable certificates of calibration were reviewed e.g. Item 118, GW Instek Electrical Safety Tester – Model GPT-9804, Serial Number: GEQ140041, Calibration Certificate Number: 177970, Calibration Maintenance & Repair Ltd, UKAS 0654, Calibrated 26 June 2018, Due 26 June 2019

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BS EN ISO/IEC 80079-34 clauses

Items marked** have additional requirements to ISO 9001 contained within BS EN ISO/IEC 80079-34. (Y, N or N/A)

Assessed Manufacturer's Doc. Ref. and comments

List manufacturer's document(s) viewed, with revision status and comments.

List any pertinent details / compliance with requirements of clause and comments of the Assessor.

8.	Measurement, Analysis & Improvement		
8.2.1	Customer satisfaction	Y	Customer complaints are processed to QM15 - Complaints and NCR's, Issue 4 & QF82 - Customer Complaint Return (CCR). Customer Complaints are recorded on a database. 30 Customer Complaints>Returns for Ex product have been received since the previous audit (<i>No safety related issues were identified</i>).
8.2.2**	Internal Audit	Y	The Internal Audit procedures are documented in QM08 - Internal Audits, Issue 1. The last ATEX Vertical Internal Audit was undertaken 7th June 2017 Covered Ex product. The Next Vertical Internal Audit to cover Ex Product is Scheduled for January 2019. NCR 01/19/1
8.2.3	Monitoring & measurement of processes	N	
8.2.4**	Monitoring & measurement of product	Y	The monitoring & measurement of product are documented in QM13 – Production Process, Issue 2. Routine 500V HIPOT Dielectric Strength/Isolation Testing is undertaken.
8.3**	Control of non-conforming product	Y	The control of non-conforming product procedure is documented in QM09 – Actions, Issue 2 and QM25 – Product Recall, Issue 1. No concessions are acceptable.
8.4	Analysis of data	N	
8.5	Improvement (Corrective and Preventative action)	N	

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4 Observations

Assessor's please note: Record observations found at audit which you consider as needing attention. These observations may not be non-conformances now but may lead to non-conformities in future.

- Observation b): Electronic Manufacturing Solutions Ltd have recently moved Premises from Thatcham to Newbury. A site visit to the new premises is recommended.
- Observation c): On review of to the EU Declaration of Conformity for Ex Certificate Baseefa08ATEX0086X (QF042-003, Issue Q); the document should include the address of the manufacturer and a statement "that this declaration of conformity is issued under the sole responsibility of the manufacturer"; See ATEX 2014/34/EU Guidelines, 1st Edition – April 2016, Section 227 – The EU Declaration of Conformity.
- Observation d): The harmonisation status of standard EN 60079-0:2012 + A11:2013 detailed on the EU Declaration of Conformity for Ex Certificate Baseefa08ATEX0086X (QF042-003, Issue Q); is expected to expire in July 2021.
- Observation e): At the Hi-Pot work station TI016 – User Instructions for 500V Test, Revision C, Page 1 of 3 was missing – This was corrected during the audit.

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Annexures

Information relevant to particular types of protection – complete relevant sections only, delete sections not required.

Show where applicable in the result box : Y = conforms N = Non-Conformance N/A = Not Applicable O = Observation

BS EN ISO/IEC 80079-34 Annex A.2: General	Result	Comments
Composition of enclosures, other components forming part of the enclosure, and fans, fan hoods and vent screens are verified by C of C	Y	M02-080-B, Issue B – HS-420 Series 1/4" – 28UNF Female Base with spot face – Material: 303 Stainless Steel SUB-CNC Precision Ltd; Certificate of Conformity: 006560, PO 10457, Batch: 004027, Drg: M02-080-B, Issue B Olarra U.K. Ltd - Inspection Certificate: 370470 Material: ASTM A582/582M 12, Type 303-1.4305

Annex A.4.: Ex i – Intrinsic Safety	Result	Comments Baseefa08ATEX0086X IECEx BAS 08.0034X
A 4.1 Components for intrinsically safe products		
Components should be verified, normally by means of verifying the marking on the components or packaging, and this may be achieved by using statistical techniques where appropriate: <ul style="list-style-type: none"> - Resistors: value, power, type. - Capacitors: value, tolerance, type. - Piezo-electric devices: manufacturer, type, capacitance. - Inductive components: type, inductance, d.c. resistance, number of turns, wire gauge and material, material specification of core and bobbin where appropriate. - Transformers: type, manufacturer, isolation, voltage. - Semi-conductors : type number and where appropriate, the manufacturer - Cells and batteries: Manufacturer and type number, or IEC designation. - Fuses: manufacturer, type, value. - Insulating materials: specification, dimensions and where appropriate type number. - Connectors (e.g. plugs/sockets and terminals): type number and where appropriate, the manufacturer. 	Y	QM12 – Stock Control and Kitting, Issue 1 – Additional Intrinsically Safe requirements (IEC 80079-34) UL PCB marking and Value of R15 (1M0 0805 1%) critical component fitted HS420IT – HS-420IT/HS-422IT 4-20mA Circuit, Revision D
A 4.2 Printed circuit boards (PCB)		
A 4.2.1 Non-populated PCBs		
PCBs can be accepted with a declaration of conformity in accordance with ISO/IEC 17050-1. The declaration should state compliance to the purchase documents e.g. a quality plan that lists the factors that together demonstrate conformity of the product.	Y	Electronic Manufacturing Solutions Ltd Certificate of Conformance/Release Note: 1206, Qty 650, 24/05/16 P02-004-7 (IS Certified 42I Signal Conditioning PCA) Issue 3 P01-004, Revision D – 4-20mA PCB Track Layout 19.5mm Dia, 1.6mm thick 1oz Copper clad epoxy Glass laminate (FR4) CTI >175 Data provided on drawings and Gerber files
For simple single- or double-sided PCBs, the copper artwork may be visually verified using photographic negative (transparency), certified drawing or controlled inspection sample.	Y	
Purchase documents should specify copper thickness, PCB thickness and CTI values.	Y	

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Annex A.4.: Ex i – Intrinsic Safety	Result	Comments Baseefa08ATEX0086X IECEX BAS 08.0034X
A 4.2.2 Populated PCBs		
Varnish and coatings should be controlled with respect to the specification of material, effectiveness of cover and where required application of two independent coverings, i.e. the first covering is allowed to cure or to dry for a suitable time before application of the second covering.	Y	Documented in AI020 – IMI Series Intrinsically Safe inner Module Series, Revision C (<i>Conformal Coating</i>) (Not used on this product)
For PCBs the manufacturer should maintain a list of safety critical components used in production (e.g. resistors and Zener diodes) determined during Ex equipment assessment. The safety critical components placed on the PCB should be verified on a 100 % basis. This may be conducted by one of the following methods: a) a visual verification; b) for surface mount components, by ensuring correct loading of the "pick and place" machines and a visual verification of correct placement; c) by automatic test equipment (ATE) provided that the ATE addresses each individual safety critical component and by a visual verification is conducted to verify type number of components in shunt Zener diode/diode assemblies.	Y	Electronic Manufacturing Solutions Ltd Certificate of Conformance/Release Note: 1206, Qty 650, 24/05/16 P02-004-7 (IS Certified 42I Signal Conditioning PCA) Issue 3 C of C verifies UL PCB marking and Value of R15 (1M0 0805 1%) critical component fitted HS420IT – HS-420IT/HS-422IT 4-20mA Circuit, Revision D
<i>NOTE Where the surface mount component "pick and place" machine selects the component reel based on measuring the component value, the measuring function should be calibrated.</i>	N/A	
Documented procedures should be provided that ensure that workmanship standards are defined with respect to component mounting and soldering.	N/A	Not required on product audited
Specified segregation for hand build PCBs should be verified on a 100% basis.	N/A	By Design
A 4.3 Sub-assemblies and assemblies		
Documented procedures should ensure that production documentation includes all relevant variations to the product design.	Y	QM13 – Production Process, Issue 1. Assembly procedure (Build Sheet) A1030 – HS-420 & HS-422 Intrinsically Safe Series Assembly Instructions, Revision H
Production documentation should address all safety critical components, and in the case of encapsulated parts, the compound manufacturer, type, mix and depth.	Y	Potting and Welding and Final Test (Figure 25)
Documented procedures should ensure that segregation of related parts (e.g. terminals) and wiring/cabling is maintained and that specified colours and/or labels are fitted.	Y	Stycast U2500 IP65
Sealing arrangements should be verified for compatibility with the product's ingress protection rating.	Y	
A 4.4 Tests		
Any tests specified Ex certificate, e.g. high voltage tests on complete assemblies or individual components such as transformers, should be controlled by documented procedures and conducted on a 100 % basis unless otherwise permitted.	Y	T1016 – User Instructions for 500V Test, Revision C QF048 – Work in Progress Result Form, Issue 7 500V HIPOT Dielectric Strength/Isolation Testing for 1 Minute (Completed 3 times Op2, Op3 and Op7) Test Report GB/BAS/ExTR 08.0059/00, Section 6.1
A 4.5 Intrinsically safe circuits and assemblies housed in Ex d, Ex p or Ex q enclosures		
Where Ex d, Ex p or Ex q enclosures contain intrinsically safe circuits then precautions should be taken as stated in the Ex certificate to ensure that other items listed in the in the Ex certificate are selected, mounted and installed in accordance with schedule drawings.	N/A	

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A 10 Ex t - dust ignition protection by enclosure	Result	Comments Baseefa08ATEX0086X IECEX BAS 08.0034X
A 10.1 Casting Castings should be subject to verification that demonstrates conformity, e.g.:		
a) Wall thickness (including the non-machinable parts);	N/A	No castings in Ex t product
b) Cracks, inclusions, bubbles and porosity.	N/A	
A 10.2 Enclosure parts Enclosure parts should be subject to verification that demonstrates conformity, e.g.:		
a) Depths of bore holes and tap holes;	Y	QM12 – Stock Control and Kitting, Issue 1 – Additional Intrinsically Safe requirements (IEC 80079-34)
b) Dimensional requirements for those enclosure parts relevant for sealing effectiveness or mechanical stability;	Y	
c) Insulating coatings and surface conditioning; material, layer thickness.	Y	
A 10.3 Gaskets Documented procedures should address the following:		
a) the gaskets correspond to the quoted specification;	N/A	No gaskets in Ex t product
b) the sealing elements effectiveness, e.g. by checking the sealing elements' correct fit. If a gasket's correct fit becomes apparent only after assembly, the imprint could be visually examined, e.g. by use of adequate tools such as chalk.	N/A	
A 10.4 Protection devices Wherever protection devices (e.g. thermal safety devices) are specified in the Ex certificate, they should be verified according to type and placement.	N/A	
A 10.5 Cemented and cast enclosure parts Documented procedures should address the following:		
a) shelf life and storage of cement, potting compounds;	N/A	No Cemented and cast enclosure parts in Ex t product
b) mixing;	N/A	
c) surface preparation (degreasing or equivalent is usually required immediately before the potting-operation to ensure good adhesion);	N/A	
d) application e.g. filling instructions, freedom from voids and temperature conditions;	N/A	
e) curing, which should include: curing period, any relevant environmental factors, provision to ensure product is undisturbed during the curing period.	N/A	

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A 10 Ex t - dust ignition protection by enclosure	Result	Comments Baseefa08ATEX0086X IECEX BAS 08.0034X
A 10.6 Ingress protection		
Documented procedures should ensure that the following is verified:		
a) weld continuity;	Y	Assembly procedure (Build Sheet) A1030 – HS-420 & HS-422 Intrinsically Safe Series Assembly Instructions, Revision H WI007 – HS-420 Series Welding Instruction – Cable Versions, Revision B Pages 9 and 10 QF048 – Work in Progress Result Form, Issue 7
b) fitting of gaskets and seals;	Y	
c) continuity of moulded grooves and tongues;	Y	
d) application of cements.	Y	
A 10.7 Examinations		
All examinations should be documented. Typical examinations are:		
a) The visual examination;	Y	Assembly procedure (Build Sheet) A1030 – HS-420 & HS-422 Intrinsically Safe Series Assembly Instructions, Revision H QF048 – Work in Progress Result Form, Issue 7
b) Further examination requirements can result from the concepts of the dusts explosion protection standards. However, these can essentially be derived from the requirements for the types of ignition protection listed so far.	N/A	

