



METALLURGICAL SERVICES

COMPANY PROFILE

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INTRODUCTION

ASAMS is an established materials and metallurgical consultancy offering a range of consultancy and testing services from its modern air conditioned laboratory, workshops and offices in Great Yarmouth, England.

Managed by a qualified metallurgist and chartered engineer, the company is in a position to offer:-

- materials selection advice
- investigation of failures
- advice on welding techniques, procedures and qualifications
- advice on setting up, implementing and auditing UKAS and ISO 9000 quality management systems
- inspecting/auditing of suppliers
- full range of mechanical tests, chemical analysis and corrosion tests
- precision engineering.

MATERIALS CONSULTANCY

With a staff consisting of a qualified metallurgist/Chartered Engineer, plus trained and experienced technicians, ASAMS gives advice on a wide range of materials applications. The company maintains an extensive library of national and international materials standards, reference books and materials data, all of which complement the experience of the staff.

Advice is available on materials selection - eg choice of materials for new designs, substitute materials where specified grades are no longer available -surface treatments, surface coatings and heat treatment techniques.

INVESTIGATION OF FAILED COMPONENTS

Since its establishment in 1989, ASAMS has used its expertise in the investigation of materials/components failures from general engineering, oil/gas and transport industries. The company makes use of its own materials testing facilities to carry out materials verification exercises, and has a range of macro- and micro-examination equipment available. Additionally, the company has working relationships with other specialised laboratories to provide rapid access to techniques such as Scanning Electron Microscopy [SEM] for the examination of fracture faces, to inductively coupled plasma [ICP] analysis techniques for analyzing small samples and/or liquids and to x-ray diffraction techniques for the identification of crystalline substances.

Investigations can be carried out to determine the cause of failure, to verify materials properties, to check adherence to contract requirements, to suggest remedial actions etc.

The company's staff have acted in an Expert Witness capacity in several cases.

WELDING CONSULTANCY

With welding experience extending over 30 years, the company is in a strong position to offer advice on a full range of welding related matters, including:

- selection of welding techniques
- selection of welding consumables
- review of suitability of welding procedures
- development of welding procedures including the preparation of procedure documentation, performance of qualification test welds and their subsequent testing
- preparation of welder qualification documentation.

The company maintains an up-to-date selection of all major welding codes - eg ASME 1X, BS EN287, BS EN ISO 15614-1, AWS D1.1 - and can provide advice on the interpretation and application of these codes.

QUALITY SYSTEMS CONSULTANCY

The company has operated since 1989 in accordance with UKAS (previously NAMAS/NATLAS) requirements for quality assurance and members of staff have provided extensive consultancy assistance to clients seeking to develop their own quality systems complying with BS EN ISO 9000, UKAS or other equivalent requirements.



We can provide assistance in documenting and implementing quality systems, carrying out audits of systems and carrying out audits of suppliers.

MATERIALS TESTING

ASAMS' testing facility in Great Yarmouth was established in August 1989. Continued investment in the laboratory has provided the total requirement for mechanical testing, chemical analysis and metallurgical investigation needed in a modern testing laboratory. The fully equipped machine shop, which forms an integral part of the facility, enables the company to provide rapid turnaround times from receipt of material to testing. The company's staff, which includes testing technicians and skilled machinists, work together as a team to offer an all-round testing service. The company's quality control system has been assessed and accredited by UKAS against the requirements of BS EN ISO/IEC 17025. (UKAS Testing number: 0935).

The mechanical test facilities include:

LOSENHAUSEN computer controlled, servo-hydraulic, universal testing machines with capacities of 20 tonnes and 100 tonnes for tensile and compression testing at ambient temperature

JJ LLOYD INSTRUMENTS tensile testing machine with 3 tonne capacity for accurate measurement of low loads (ambient temperature).

Schenk Charpy impact testing machines approved to BSEN 10045 part 1 for use from ambient temperature down to -196° Centigrade.

VICKERS hardness testing at 5kg, 10kg and 30kg.

ROCKWELL "B" and "C" scale hardness testing.

BRINELL hardness testing (3000kg force with a 10mm tungsten carbide ball and 30 kg force with 1mm tungsten carbide ball).

Guided bend testing.

In addition, the company also carries out on-site hardness testing using an EQUOTIP 3 Machine.

METALLURGICAL EXAMINATION:

The company has fully equipped facilities to carry out metallurgical examinations, such as ferrite determinations on stainless and duplex stainless steels, grain size determinations, graphite type determinations in cast irons and coating thickness examinations - these include:

BINOCULAR ZOOM MICROSCOPES with magnifications from 3.5x to 160x for macro-examination of welded sections and fracture surfaces.

NIKON METALLURGICAL MICROSCOPE with magnifications up to 1000x for examination of microstructures - this machine is fully equipped for photomicrography, including Mega pixel CCTV and video enhancement giving on screen magnifications in excess of 2,000x.

POLAROID MP4 CAMERA and MEGA PIXEL DIGITAL CAMERAS for photography of macro-sections and fracture surfaces.

Full range of specimen preparation equipment including rotary grinders, polishers capable of achieving a 1/4 micron finish and full chemical and electrochemical etching facilities.

CHEMICAL ANALYSIS:

The company is able to offer chemical analysis at fast and competitive rates. Bulk analyses are carried out on a Spectromat GDS 750 Glow Discharge Spectrometer, capable of accurate analysis for a wide range of elements and special rates can be negotiated for regular contract work.

The facilities are capable of analyzing solid metal samples above a minimum size (approx. 14mm dia x 2mm thick), of various alloy types including CARBON/ALLOY STEELS, STAINLESS STEELS.



CORROSION TESTING:

Immersion corrosion tests to standard practices, such as ASTM A262, ASTM G48, can be performed.

PRECISION MACHINING:

Local clients have made use of our machine shop facilities to supplement their own facilities or for the performance of specialised machining - we also manufacture, where necessary, our own testing jigs and fixtures.

Users of our services have included:-

AALCO	NORWICH
ADAS	READING
AKD ENGINEERING LTD	LOWESTOFT
AMEC OFFSHORE DEVELOPMENTS	GREAT YARMOUTH
AMOCO (UK)	BACTON
ANGLIAN WINDOWS	NORWICH
ARCO BRITISH LTD	GREAT YARMOUTH
BERGENS RORHANDEL	NORWAY
BRITISH SUGAR	NORWICH, BURY ST EDMUNDS, KINGS LYNN
BROWN & TAWSE	LONDON
BJ SERVICES	GREAT YARMOUTH
BRITISH MUTUAL MARINE INSURANCE	NORTH HUMBERSIDE
CAMCO	N. IRELAND
COLNE SHIPPING	LOWESTOFT
ESAB GROUP	WALTHAM CROSS
HMP WAYLAND	THETFORD
HEATRAE SADIA	NORWICH
ITAG	GERMANY
LAURENCE SCOTT & ELECTROMOTORS LTD	NORWICH
LOTUS CARS/ENGINEERING	NORWICH
MSI DEFENCE EQUIPMENT & SYSTEMS	NORWICH
NOWSCO	ABERDEEN
OIS PLC	ABERDEEN
PHILLIPS PETROLEUM CO UK LTD	BACTON
QASCO	QATAR
SHELL (UK)	LOWESTOFT
SMB	FRANCE
UK FIRE	NORWICH
VAN DIEMAN INTERNATIONAL RACING SERVICES	NORWICH