

Purchasing guidelines for: Aluminium Beams

Issued – January 2023

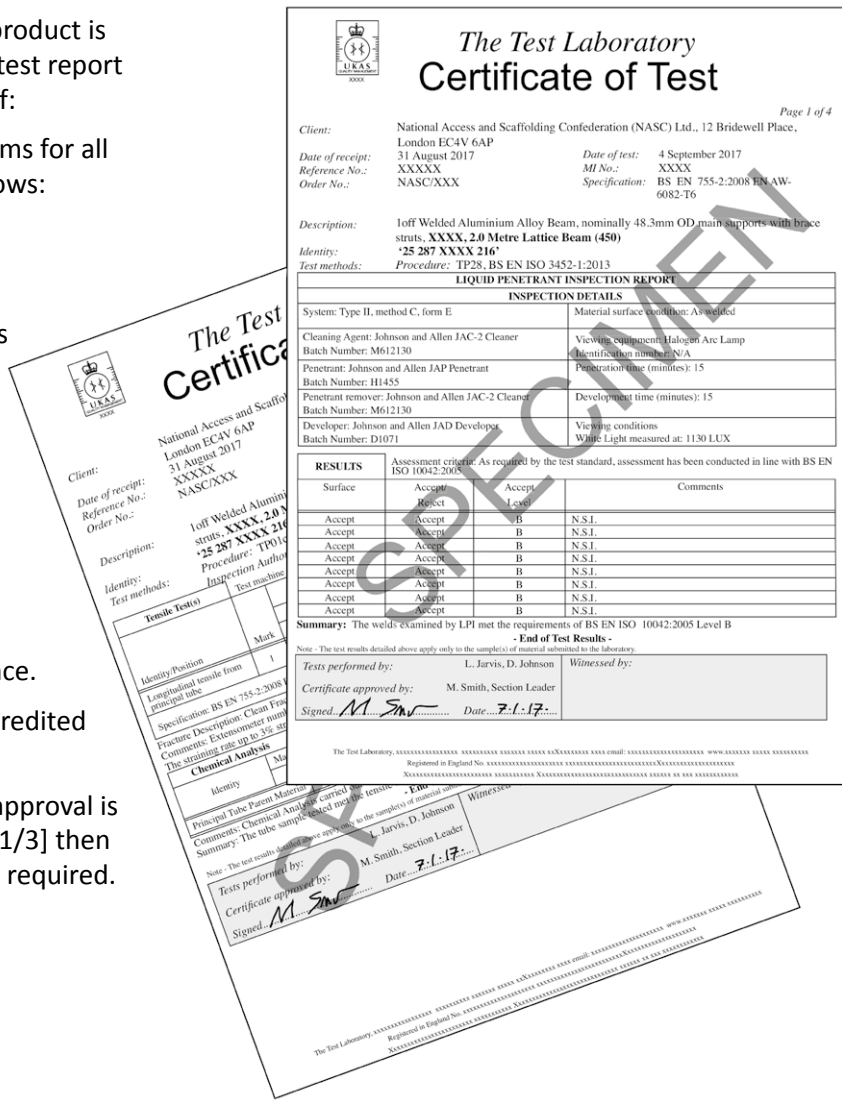
INTRODUCTION

The purpose of this guidance note is to detail best purchasing practice for Aluminium beams. If beams are sourced from an NASC compliant company, as demonstrated by the NASC CoP assessment report, then no further action is required, other than a visual inspection of your supplier’s certificate of product compliance with the NASC CoP product audit (a list of suppliers and products may be found on the NASC website). If the beams are not sourced from an NASC compliant company, then the guidelines below should be followed.

TEST DATA

Test data is the criteria to which the product is independently tested as seen on the test report example opposite, & should consist of:

- Annual testing on Aluminium Beams for all suppliers / manufacturers, as follows:
 - Chemical analysis.
 - Mechanical analysis.
 - Outside diameter & wall thickness dimension.
 - Weld testing to ISO 10042:2018 min level D and should take into account the following:
 - Visual & LPI of 4 x 90 degree & 4 obtuse angle welds.
 - 2 x macro weld inspections.
 - HAZ zones & buckling resistance.
 - Annual tests must be by a UKAS accredited facility or TUV/SGS.
- ** If a current international welding approval is in place, [Eg, ISO 3834-2, or EN 1090-1/3] then weld testing to ISO 10042:2018 is not required.



The Test Laboratory Certificate of Test

Client: National Access and Scaffolding Confederation (NASC) Ltd., 12 Bridewell Place, London EC4V 6AP
 Date of receipt: 31 August 2017
 Reference No.: XXXXX
 Order No.: NASC/XXX

Date of test: 4 September 2017
 MI No.: XXXX
 Specification: BS EN 755-2:2008 EN AW-6082-T6

Description: Toff Welded Aluminium Alloy Beam, nominally 48.3mm OD main supports with brace struts. **XXXX, 2.0 Metre Lattice Beam (450)**
 Identity: *25 287 XXXX 216*
 Test methods: Procedure: TP28, BS EN ISO 3452-1:2013

| LIQUOR PENETRANT INSPECTION REPORT | | |
|--|---|--|
| INSPECTION DETAILS | | |
| System: Type II, method C, form E | Material surface condition: As supplied | |
| Cleaning Agent: Johnson and Allen JAC-2 Cleaner | Viewing equipment: Halogen Arc Lamp | |
| Batch Number: M612130 | Identification number: N/A | |
| Penetrant: Johnson and Allen JAP Penetrant | Penetration time (minutes): 15 | |
| Batch Number: H1455 | Development time (minutes): 15 | |
| Penetrant remover: Johnson and Allen JAC-2 Cleaner | Viewing conditions | |
| Batch Number: M612130 | White Light measured at: 1130 LUX | |
| Developer: Johnson and Allen JAD Developer | Batch Number: D1071 | |

| RESULTS | Assessment criteria: As required by the test standard, assessment has been conducted in line with BS EN ISO 10042:2018 | Comments |
|---------|--|----------|
| Surface | Accept | |
| | Reject | |
| | Level | |
| Accept | Accept | B N.S.I. |
| Accept | Accept | B N.S.I. |
| Accept | Accept | B N.S.I. |
| Accept | Accept | B N.S.I. |
| Accept | Accept | B N.S.I. |
| Accept | Accept | B N.S.I. |
| Accept | Accept | B N.S.I. |
| Accept | Accept | B N.S.I. |
| Accept | Accept | B N.S.I. |

Summary: The welds examined by LPI met the requirements of BS EN ISO 10042:2018 Level B

End of Test Results

Tests performed by: L. Jarvis, D. Johnson
 Certificate approved by: M. Smith, Section Leader
 Signed: M. Smith Date: 7.1.17

MATERIAL CERTIFICATION

| 格证明产品质量合 | | 格证明产品质量合 | |
|--------------------------------|---|--|--|
| AAA-Aluminium (China) Limited | | Product Quality Approval Certificate | |
| EN10204:3.1 | | EN10204:3.1 | |
| Ref No. | XX123456789 | Page No. | 1/1 |
| 产品名称/型号 Product Section No. | UK000001(AA1) | 合金状态 Alloy-Temper | EN755-2 6082T6 |
| 客户名称 Customer Name | Example Scaffold Services Ltd | 客户订单号/工厂订单号 Customer Order No./Mill Order No. | XXXX0123 |
| 长度/Extent | 8.1 m | 颜色/Color | Mill Finish |
| 炉号 Heat No. | I | 数量/重量 Amount/Weight | 1350pcs/6883.64kg |
| 生产许可证编号 Licence No. | XX10-000-00123 | * 检验标准 Testing Reference | BS EN755-2:2001/BS EN753-3:2013 BS 1139 |
| * 检验项目 Item No. | 单位/Unit | 标准值/Standard | 检测值/Examined |
| 化学成分 Chemical Analysis | w% | | 结论/Conclusion |
| 硅/Si | | 0.7-1.3 | 0.861 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 镁/Mg | | 0.6-1.2 | 0.647 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 铁/Fe | | 0.50 | 0.138 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 铜/Cu | | 0.10 | 0.000 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 锰/Mn | | 0.4-1.0 | 0.482 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 锌/Zn | | 0.20 | 0.017 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 锡/Sn | | 0.25 | 0.011 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 钛/Ti | | 0.10 | 0.017 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 镍/Ni | | I | <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 铅/Pb | | I | <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 铋/Bi | | I | <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 铟/In | | I | <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 铝/Al | | I | <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 抗拉强度/Tensile Strength | MPa | ≥290 | 312 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 屈服强度/Yield Strength | MPa | ≥250 | 281 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 延伸率/Elongation (50mm) | % | ≥6 | 11.0 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 布氏硬度/Brinell Hardness | HBW | ≥95 | 101.0 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 1号尺寸/1# Size | mm | Ø48.30±0.50 | 48.17 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 2号尺寸/2# Size | mm | 4.10±0.2/0.10 | 4.06 <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG |
| 备注/Remark | Drill Test Passed The above tests have been certified to BS1139 | | |
| 检验结果 Test Result | 综合判定/Integrated Result: <input checked="" type="checkbox"/> 合格/Pass <input type="checkbox"/> 不合格/Not Pass | | |
| Approved by | Prepared by | Issue date: 2017-12-28 (YYMMDD) | |

注: 本证明书无检验单位公章无效, 复印无效。本证明书之检验结果仅对本公司提供之同批产品负责。
This certificate (and Copy) will not be effective without the stamp of testing department. Testing result of this certificate only responsible for the same lot of product supplied by our company.

You need to check that a material test certificate from the manufacturer/supplier are available for all aluminium beam tube. Below is an example of a material test certificate, which will detail the following information:

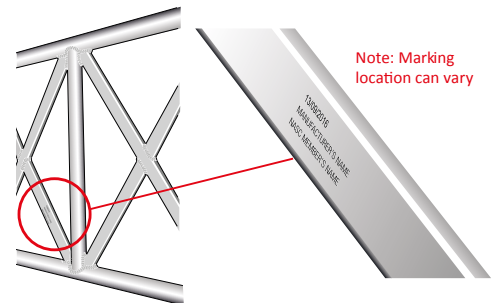
The British or European specification / standard, EN 755-2 6082T6.

- The specification/standard should be clearly identified on the test certificate.
- The test certificate will detail that it is to the requirements of: EN 10204:2001 section 3.1.

MARKING REQUIREMENTS

You need to check that each beam is permanently marked on the surface with the following information:

- Year of manufacture.
- Registered trade mark, or the manufacturer's name.
- NASC member companies name, [when the original manufacturer is not an NASC member].

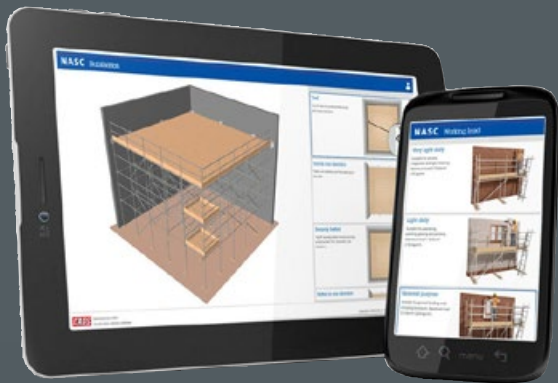


USER GUIDE/DATA SHEET

Is there an aluminium beam guide/data sheet available which, as a minimum, includes the following information:

- Details of beam sections, dimensions and self weights.
- Connection details and fixing components.
- E and I values.
- Maximum allowable bending moment.
- Maximum allowable shear force.
- Factor of safety. (Must be at least 1.65)
- Information regarding how permissible loads have been obtained. i.e calculated in accordance with EN 1999:2007 or obtained from physical testing to EN 12811 part 3.
- Details of the configuration and frequency of lacing and bracing requirements to achieve the specified bending and shear loadings.

Guidance that makes a difference



- Comprehensive industry guidance, recognised by the Health & Safety Executive (HSE)
- Targets all safety and commercial risks, ensuring your business remains safe and profitable
- Meticulously researched and written by experienced professionals, focused on improving the scaffolding industry
- Aimed at the busy general manager with user friendly, step-by-step advice
- Cutting edge technical guidance on best practice, including ePortal and compliance sheets, that could save you thousands of pounds
- Guidance used by the whole industry – but NASC members receive much of it free and the rest at a huge discount of up to 82%.

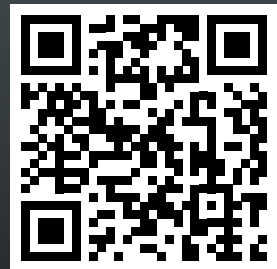
“Setting the Standard for Scaffolding”

NASC

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www.nasc.org.uk

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