



Certified Reference Materials

FOR VALIDATION OF REFRACTOMETERS ACROSS A WIDE MEASUREMENT RANGE

Regular verification of laboratory instrumentation is of primary importance in a modern manufacturing facility, not only for reasons of quality control but also as an assurance of plant efficiency.

Depending on the instrument type, application and traceability requirement, a choice can be made from a number of Certified Reference Materials (CRM) offered by Bellingham + Stanley that may be used to verify almost any make of refractometer.

CRMs including low range AG Fluids and for higher refractive index measurement, Calibration Oils are available as single value multi-packs or now as mixed multi-packs, allowing users to verify the whole measuring range from a single, long life pack covering the refractive index range 1.33 to 1.56 RI, equivalent to 0-90 °Brix.

All CRMs are manufactured to the highest standards and are certified in accordance with EN ISO/ IEC 17025:2005 by Bellingham + Stanley, a UKAS accredited calibration laboratory No. 0834.

The United Kingdom Accreditation Service (UKAS) is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of calibration certificates.



- Low range water based AG Fluids
- High range Calibration Oils
- Traceable to NIST & ICUMSA
- 12-months validity
- RI/Temperature relationship tables¹
- On-line RI/Temperature calculators¹



a xylem brand

UKAS Certified Reference Materials

For high precision verification and validation of refractometers

Mixed CRM Multi-pack - FIVE

Multi-Pack of 5 x 5ml bottles (1 of each value below) incl. UKAS Certificates (5), SDS (5) & disposable pipettes (5).

Description.	Code	AG2.5	AG5	AG7.5	AG10	AG11.2	AG12.5	AG15	AG40	BSLP	BSDC	BSDD
Soda	90-910	•				•		•	•	•		
Beverage (USA)	90-911			•			•	•	•	•		
Juice	90-912		•			•		•	•	•		
Pharma & Chem	90-913				•			•	•	•	•	•
Petrochemical	90-914				•				•	•	•	•

Mixed CRM Multi-pack - TWENTY

Multi-Pack of 20 x 5ml bottles (2 of each value below) incl. UKAS Certificates (10), SDS (3) & disposable pipettes (20).

Description	Code	AG2.5	AG5	AG7.5	AG10	AG11.2	AG12.5	AG15	AG40	BSLP	BSDC	BSDD
Service	90-903	•	•	•	•	•	•	•	•	•	•	•

Specifications - Values		
Type	Refractive Index ²	°Brix ³
AG2.5	1.33659	2.50
AG5	1.34026	5.00
AG7.5	1.34401	7.50
AG10	1.34782	10.00
AG11.2	1.34968	11.20
AG12	1.35093	12.00
AG12.5	1.35171	12.50
AG15	1.35568	15.00
AG40	1.39986	40.00
BSLP ⁴	1.46453	69.62
BSDC-B ⁴	1.53632	96.55
BSDD ⁴	1.56138	---

Specifications - Uncertainty ⁵ (k=2)		
Type	Refractive Index ²	°Brix ³
AG	±0.000037	±0.019
BSLP	±0.000074	±0.030
BSDC-B	±0.000074	±0.030
BSDD	±0.000103	---

Specifications - General		
Certificate:	UKAS (ISO17025)	
Shelf Life:	12-months (minimum)	
Storage:	Room temperature Keep sealed	
Traceability:	ICUMSA / NIST	

Mixed multi-packs are ideal for customers, sales persons and service engineers. They have an excellent shelf life and do not require any special storage during transit. They are ideal for verifying the performance of new installations as well as for validating refractometers in the harshest of controlled environments such as within the chemical and pharmaceutical industry. CRMs can verify refractometers that are not temperature controlled by entering data in to an on-line calculator accessed via the QR Code below.

(1) Temperatures other than 20°C are not covered by the UKAS accreditation of Bellingham + Stanley. Please refer to the calculator or data table for details. (2) 589.3nm & 20°C. (3) >85 °Brix is extrapolated from ICUMSA data. (4) Batch dependant.
(5) Uncertainty: The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement in units of °Brix (equivalent to weight % sucrose in water) multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with publication EA-4/02. (6).



**Bellingham
+ Stanley**

a xylem brand

International

Longfield Road
Tunbridge Wells
Kent, TN2 3EY
United Kingdom
Tel: +44 (0) 1892 500400
Fax: +44 (0) 1892 543115
sales.bs.uk@xyleminc.com

United States

90 Horizon Drive
Suwanee
GA 30024
United States of America
Tel: 678 804 5730
Fax: 678 804 5729
sales.bs.us@xyleminc.com

www.bellinghamandstanley.com