

## OFFICIAL METHODS LIST FOR REFRACTOMETERS

The following are just some of the official methods for use of bench top, high accuracy refractometers. This list is by no means complete.

ORGANISATION	METHOD NUMBER	TITLE	NOTES
ICUMSA	SPS-3	Refractometry and Tables - Official	Sucrose Measurement (Sugar)
ICUMSA	GS4-13	The Determination of Refractometric Dry Substance (RDS%) of Molasses - Accepted	Molasses Measurement
SSDT	11.5	Solids (Corn Syrup)	Corn Syrup Measurement
ISI	06-1e	Determination of Dry Matter in Syrup by Refractive Index	Various Sugars Measurement
AOAC	950.04	Alcohol by Volume in Distilled Liquors - Refractometer Method	Percent Alcohol Measurement
AOAC	970.15	Alcohol (by Weight) in Beer - Refractometer Method	Percent Alcohol Measurement
AOAC	920.58	Alcohol in Wines by Volume from Refraction (Rapid Method)	Percent Alcohol Measurement
AOAC	976.20	Solids (Soluble) in Frozen Concentrate for Lemonade - Refractometer Method	Sucrose Content with Citric Acid Correction Factor
AOAC	932.12	Solids (Soluble) in Fruits and Fruit Products - Refractometer Method	Sugar Content of Fruits and Fruit Products
AOAC	921.08	Index of Refraction of Oils and Fats	Temperature Corrected Refractive Index of Oils and Fats
AOAC	969.18	Refractive Index of Butterfat	Acid Corrected Refractive Index of Butterfats
AOAC	920.141	Refractive Index of Lemon and Orange Oils	Refractive Index of Essential Oils

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AOAC	970.59	Solids (Soluble) in Tomato Products - Refractive Index Method	Concentration of Soluble Material in Tomato Products
AOAC	932.14, Section C	Solids in Syrups (By Means of Refractometer)	Sugar Concentration of Raw and Refined Syrups
AOCS	S 2-64	Recommended Practices for the Testing of Commercial Fatty Acids - Refractive Index	Detecting Adulteration in Oils, Iodine Value
AOCS	Tp 1a-64	Refractive Index	Refractive Index of Drying Oils and all Fatty Acids
AOCS	Cc 7-25	Refractive Index	Refractive Index of all Normal Oils and Liquid Fats
ASTM	D 542-50	Index of Refraction of Transparent Organic Plastics	Refractive Index of Plastics (by Refractometer and Microscope)
ASTM	D 4542-85	Standard Test Method for Pore Water Extraction and Determination of the Soluble Salt Content of Soils by Refractometer	Soluble Salt Content of Fine Grained Soils
ASTM	D 3321-94	Standard Practice for Use of the Refractometer for Determining the Freezing Point of Aqueous Engine Coolants	Freeze Point Protection Factor for Radiator Fluid
ASTM	D 17474-89	Standard Test Method for Refractive Index of Viscous Materials	Refractive Index of Transparent and Light Coloured Viscous Hydrocarbon Liquids and Melted Solids
ASTM	D 1218-87	Standard Test Method for Refractive Index and Refractive Dispersion of Hydrocarbon Liquids	Refractive Index and Dispersion Values of Hydrocarbon Liquids
ASTM	D 5006-90	Standard Test Method for Measurement of Fuel System Icing Inhibitors (Ether Type) in Aviation Fuels	Concentration of both Ethylene and Diethylene Glycol Monomethyl Ether In Aviation Fuels
ASTM	D 1416	Standard Test Method for Measurement of Bound Styrene in SBR	Measurement of Styrene Content of Rubber

Established 1980

ASTM	D 2159-88	Standard Test Method for Naphthenes in Saturates Fractions by Refractivity Intercept	Determination of Naphthenes or "Equivalent Naphthenes" in Naphthas of Depentanized Gasolines
ASTM	D 1807-94	Standard Test Methods for Refractive Index and Specific Optical Dispersion of Electrical Insulating Liquids	Determination of the Refractive Index of Electrical Insulating Liquids such as those used in Capacitors, Transformers, Circuit Breakers and Oil Filled Cables
ASTM	D 4095-82	Standard Practice for Use of the Refractometer for Determining Nonvolatile Matter (Total Solids) in Floor Polishes	Determination of the Total Solids Insoluble. (Non Volatile) of Floor Polishes, Resin Solutions and Wax Emulsions
OIML	R108	REFRACTOMETERS FOR THE MEASUREMENT OF THE SUGAR CONTENT OF FRUIT JUICES - 1993	
JIS	T 7319	REFRACTOMETERS - 1988	
IAMFES	46	REFRACTOMETERS AND ENERGY ABSORBING OPTICAL SENSORS FOR MILK AND MILK PRODUCTS - 2002	
DIN	51423	TESTING OF MINERAL OILS; MEASUREMENT OF REFRACTIVE INDEX WITH THE ABBE REFRACTOMETER - 1975	
A-A-53856		REFRACTOMETER - 1989	

Again, please note that this is certainly not a complete list of standards developed which relate to Refractive Index. This list is meant as an introduction to the diversity of industries and applications where Refractive Index can be applied. Refractive Index is used for numerous other specific applications which are far too numerous to mention (including those which have official methodologies and those whose methodologies have been developed specifically for a particular industry or company).

If you or your customer require any assistance in determining whether Refractive Index is a viable method of analysis for their particular application, please do not hesitate to contact us at any time.