

Viscosity Standards

General Purpose

The same product reliability and stability that our customers trust in metallo-organic standards are available in General Purpose Viscosity standards. These certified, mineral oil based, viscosity standards were developed for calibration and verification of many types of viscometers, including glass capillary viscometers.

All standards are traceable to National Standards in accordance to ASTM & IP methods.

The determination of kinematic and dynamic viscosity are made in accordance with ASTM D 445/446 and ISO 3104/3105, ISO 17034 and are traceable to the NIST (National Institute of Standards and Technology).

All calibrations are based on a master viscometer procedure located in ASTM D 2162 and the National Institute of Standards and Technology (NIST) value of 1.0016 mPa.s (centipoise) for water at 20 °C (68 °F). Custom standards are available. Please contact us for more information.



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Viscosity Reference Standard S20

Temperature C	Kinematic Viscosity mm ² /s (cSt)	Dynamic Viscosity mPa.s (cP)	Density g/cm ³	Barrel Viscosity cP
20.00	48.43	42.452	0.8767	
25.00	37.70	36.509	0.8726	
30.00	30.33	27.652	0.8653	33.3
35.00	25.00	22.200	0.8560	
40.00	20.00	17.000	0.8450	
45.00	15.00	12.000	0.8325	
50.00	10.00	7.000	0.8185	
55.00	7.00	5.000	0.8030	
60.00	5.00	3.500	0.7960	
65.00	3.50	2.500	0.7875	
70.00	2.50	1.750	0.7775	
75.00	1.75	1.250	0.7660	
80.00	1.25	0.875	0.7530	
85.00	0.87	0.625	0.7385	
90.00	0.62	0.450	0.7225	
95.00	0.45	0.325	0.7050	
100.00	0.32	0.225	0.6860	

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Volume					
Viscosity Standards	125 ml	500 ml	1 Litre	4 Litre	20 Litre
S3	150-600-351	150-600-352	150-600-353	150-600-354	150-600-355
S6	150-600-141	150-600-142	150-600-143	150-600-144	150-600-145
N4	150-600-441	150-600-442	150-600-443	150-600-444	150-600-445
N10	150-600-181	150-600-182	150-600-183	150-600-184	150-600-185
N14	150-600-211	150-600-212	150-600-213		
S20	150-600-221	150-600-222	150-600-223	150-600-224	150-600-225
N35	150-600-261	150-600-262	150-600-263	150-600-264	150-600-265
N44	150-600-461	150-600-462	150-600-463	150-600-464	150-600-465
S60	150-600-301	150-600-302	150-600-303	150-600-304	150-600-305
N100	150-600-341	150-600-342	150-600-343	150-600-344	150-600-345
S200	150-600-231	150-600-232	150-600-233	150-600-234	150-600-235
N350	150-600-361	150-600-362	150-600-363	150-600-364	150-600-365
N415	150-600-471	150-600-472	150-600-473	150-600-474	150-600-475
S600	150-600-241	150-600-242	150-600-243	150-600-244	150-600-245
N1000	150-600-371	150-600-372	150-600-373	150-600-374	150-600-375
S2000	150-600-381	150-600-382	150-600-383	150-600-384	150-600-385
N4000	150-600-391	150-600-392	150-600-393	150-600-394	150-600-395
S8000	150-600-401	150-600-402	150-600-403	150-600-404	150-600-405
N15000	150-600-411	150-600-412	150-600-413	150-600-414	150-600-415
S30000	150-600-421	150-600-422	150-600-423	150-600-424	150-600-425



Typical Specifications for Viscosity Standards

	Kinematic Viscosity in mm ² /s (Centistokes)									Saybolt Viscosity
	20 °C/ 68 °F	25 °C/ 77 °F	37.78 °C/ 100 °F	40 °C/ 104 °F	50 °C/ 122 °F	60 °C/ 140 °F	80 °C/ 176 °F	98.89 °C/ 210 °F	100 °C/ 212 °F	37 °C/ 100 °F
S3	4.5	4.0	3.0	2.8	2.4	2.0	1.5	1.2	1.2	
S6	10	8.8	6.0	5.7	4.5	3.6	2.5	1.9	1.9	
N4	6.7	5.8	4.2	4.0	3.2	2.6	1.9	1.5	1.4	
N10	21	17	11	10	7.5	5.8	3.7	2.7	2.6	
N14				14	10				3	
S20	46	35	20	18	13	9.0	5.6	3.6	3.5	87
N35	90	67	36	32	21	15	8.4	5.4	5.3	167
N44	110	86	48	44	30	21	12	7.6	7.4	220
S60	160	119	60	54	35	26	12	7.7	7.5	281
N100	318	228	110	97	60	39	20	11	11	509
S200	715	487	206	180	103	64	30	17	16	954
N350	1400	940	370	330	180	110	46	24	23	1730
N415	1900	1200	480	410	220	130	55	29	28	2200
S600	2400	1600	600	520	280	160	66	34	32	
N1000	5100	3300	1200	1000	520	290	110	52	50	
S2000	8200	5200	1900	1600	780	400	150	70	68	
N4000	18000	11000	3900	3300	1600	840	280	123	117	
S8000	37000	23000	7900	6700	3200	1600	520	210	200	
N15000	64000	40000	13000	11000	5300	2700	850	340	320	
S30000		80000	28000	23000	11000	5800	1700	670	640	



Typical Specifications for Viscosity Standards

Dynamic Viscosity in mPa.S (Centipoise)										Saybolt Viscosity
	20 °C/ 68 °F	25 °C/ 77 °F	37.78 °C/ 100 °F	40 °C/ 104 °F	50 °C/ 122 °F	60 °C/ 140 °F	80 °C/ 176 °F	98.89 °C/ 210 °F	100 °C/ 212 °F	37 °C/ 100 °F
S3	3.7	3.3	2.4	2.3	1.9	1.6	1.2	0.9	0.9	
S6	8.7	7.3	5.0	4.7	3.6	2.9	2.0	1.5	1.4	
N4	5.6	4.8	3.4	3.2	2.6	2.1	1.5	1.1	1.1	
N10	18	14	9.0	8.4	6.2	4.7	3.0	2.1	2.1	
N14				12	8.6				2.5	
S20	40	30	17	15	11	7.6	4.7	2.9	2.9	87
N35	78	59	31	28	18	13	7.0	4.4	4.3	167
N44	91	71	39	36	24	17	9.4	6.0	5.8	220
S60	138	102	52	46	30	22	9.9	6.3	6.1	281
N100	276	197	94	83	51	33	16	9.4	9.1	509
S200	613	416	174	152	87	54	24	15	13	954
N350	1200	810	320	280	150	92	38	20	19	1730
N415	1600	1100	410	350	190	110	45	23	23	2200
S600	2100	1400	510	440	240	140	55	28	26	
N1000	4400	2800	1000	940	440	240	92	43	41	
S2000	7200	4500	1600	1400	670	340	130	58	56	
N4000	16000	9700	3400	2900	1400	720	240	100	98	
S8000	33000	20000	6900	5900	2800	1400	440	180	170	
N15000	57000	36000	11000	9700	4700	2400	730	290	270	
S30000		72000	25000	20000	9700	5100	1500	570	550	



Typical Specifications for Viscosity Standards

Density in g/ml in accordance with ASTM D7042									
	20 °C/ 68 °F	25 °C/ 77 °F	37.78 °C/ 100 °F	40 °C/ 104 °F	50 °C/ 122 °F	60 °C/ 140 °F	80 °C/ 176 °F	98.89 °C/ 210 °F	100 °C/ 212 °F
S3	0.833	0.830	0.821	0.820	0.813	0.806	0.792	0.779	0.778
S6	0.831	0.828	0.819	0.818	0.811	0.805	0.791	0.779	0.778
N4	0.834	0.831	0.822	0.820	0.814	0.807	0.793	0.780	0.780
N10	0.842	0.839	0.831	0.829	0.823	0.816	0.804	0.791	0.791
N14				0.853	0.847				0.814
S20	0.871	0.868	0.860	0.859	0.852	0.846	0.833	0.821	0.820
N35	0.872	0.869	0.861	0.860	0.853	0.847	0.834	0.823	0.822
N44	0.828	0.825	0.817	0.816	0.809	0.803	0.791	0.779	0.779
S60	0.863	0.860	0.852	0.851	0.845	0.839	0.826	0.815	0.814
N100	0.867	0.864	0.857	0.855	0.849	0.843	0.831	0.820	0.819
S200	0.858	0.855	0.847	0.846	0.840	0.834	0.822	0.910	0.810
N350	0.863	0.860	0.852	0.851	0.845	0.839	0.827	0.816	0.815
N415	0.865	0.862	0.854	0.853	0.847	0.841	0.830	0.819	0.818
S600	0.866	0.864	0.856	0.855	0.849	0.843	0.832	0.820	0.820
N1000	0.872	0.869	0.862	0.860	0.855	0.849	0.837	0.826	0.826
S2000	0.876	0.873	0.865	0.864	0.858	0.853	0.841	0.831	0.830
N4000	0.882	0.879	0.872	0.871	0.865	0.860	0.849	0.838	0.838
S8000	0.888	0.885	0.878	0.877	0.872	0.866	0.855	0.845	0.845
N15000	0.893	0.891	0.884	0.883	0.877	0.872	0.861	0.851	0.851
S30000		0.896	0.889	0.888	0.883	0.877	0.867	0.857	0.857