

Sample: WZ-Fornalski N2 77K
Operator: WB
Submitter: WZ
File: C:\Dokumenty\Pomiar...\000-065_WZ-Fornalski_N2_77K.SMP

Started: 2016-11-23 10:57:42	Analysis adsorptive: N2
Completed: 2016-11-24 03:29:40	Analysis bath temp.: 77.330 K
Report time: 2016-11-25 11:39:10	Thermal correction: No
Sample mass: 0.8149 g	Warm free space: 16.5263 cm ³ Measured
Cold free space: 49.3834 cm ³	Equilibration interval: 7 s
Low pressure dose: 5.0000 cm ³ /g STP	Sample density: 1.000 g/cm ³
Automatic degas: Yes	

Comments: odgazowanie ASAP 6h w 150C

Note: Analysis Conditions Modified During Analysis

Summary Report

Surface Area

Single point surface area at $p/p^\circ = 0.197825402$: 242.2011 m²/g

BET Surface Area: 257.3141 m²/g

BJH Adsorption cumulative surface area of pores
between 1.7000 nm and 300.0000 nm width: 287.304 m²/g

BJH Desorption cumulative surface area of pores
between 1.7000 nm and 300.0000 nm width: 371.9357 m²/g

Pore Volume

Single point adsorption total pore volume of pores
less than 110.0846 nm width at $p/p^\circ = 0.981481840$: 0.290641 cm³/g

BJH Adsorption cumulative volume of pores
between 1.7000 nm and 300.0000 nm width: 0.301632 cm³/g

BJH Desorption cumulative volume of pores
between 1.7000 nm and 300.0000 nm width: 0.351397 cm³/g

Pore Size

Adsorption average pore diameter (4V/A by BET): 4.51808 nm

BJH Adsorption average pore width (4V/A): 4.1995 nm

BJH Desorption average pore width (4V/A): 3.7791 nm

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Isotherm Tabular Report

Relative Pressure (p/p°)	Absolute Pressure (mmHg)	Quantity Adsorbed (cm ³ /g STP)	Elapsed Time (h:min)	Saturation Pressure (mmHg)
			01:24	758.999695
0.000004857	0.003686	5.0504	02:28	
0.000021043	0.015966	10.0973	03:22	
0.000074965	0.056872	15.1438	03:57	
0.000221284	0.167862	20.1794	04:28	
0.000612263	0.464412	25.1948	04:57	
0.001614778	1.224727	30.1730	05:27	
0.003991315	3.026892	35.0645	06:02	
			06:32	758.301758
0.009427549	7.148882	39.8133	06:39	
0.020337525	15.421774	44.2291	06:47	
0.029896107	22.669703	46.7128	07:00	
0.040417142	30.647375	48.8660	07:09	
0.048938022	37.108360	50.3708	07:15	
0.059453401	45.081642	52.0776	07:21	
0.072408525	54.904663	53.9849	07:30	
0.079709362	60.440289	55.0001	07:36	
0.089630256	67.962585	56.3168	07:41	
0.099216325	75.230865	57.5644	07:47	
0.117416493	89.030602	59.8233	07:54	
0.137964100	104.610184	62.3089	08:00	
0.158144756	119.911255	64.6996	08:07	
0.178090918	135.034454	67.0466	08:13	
0.197825402	149.996857	69.3682	08:20	
0.246800888	187.129623	75.2277	08:31	
0.298453690	226.291840	81.6993	08:41	
			08:43	758.212891
0.349287309	264.824341	88.5657	08:53	
0.399335281	302.757629	96.0342	09:04	
0.448373325	339.922180	104.1721	09:15	
0.495329331	375.503937	112.9848	09:27	
0.541447831	410.446136	122.9206	09:40	
0.553723544	419.739349	125.7051	09:48	
0.596357180	452.028503	136.4331	10:05	
0.636389947	482.347656	147.5507	10:19	
0.650451343	492.987152	151.5269	10:29	
0.687071419	520.715088	162.1162	10:43	
			10:45	757.870605
0.701074025	531.304504	165.8126	10:54	
0.740201285	560.928040	175.4316	11:07	
0.749521965	567.975586	177.2431	11:14	
0.802406993	608.026978	184.2863	11:24	

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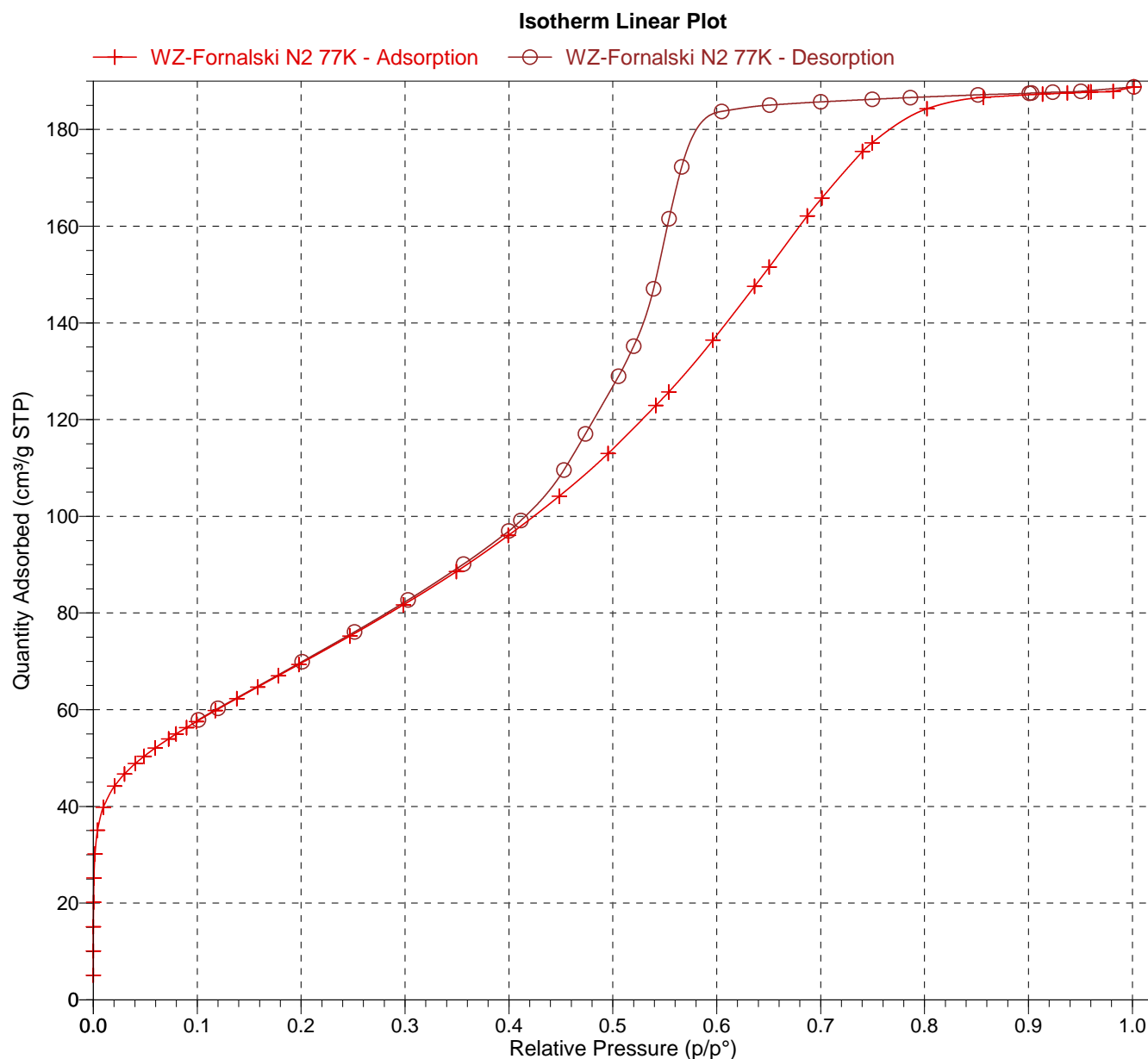
Relative Pressure (p/p°)	Absolute Pressure (mmHg)	Quantity Adsorbed (cm ³ /g STP)	Elapsed Time (h:min)	Saturation Pressure (mmHg)
0.856791369	649.224121	186.6378	11:29	
0.913585261	692.250854	187.3087	11:32	
0.937489766	710.358398	187.5223	11:34	
0.957862877	725.789856	187.6959	11:36	
0.959870867	727.308472	187.7633	11:37	
0.981481840	743.677551	187.8985	11:39	
1.001531721	758.839539	188.7908	11:49	
0.950512655	720.174927	187.9021	11:52	
0.923437219	699.655151	187.7037	11:54	
0.902952398	684.131836	187.5458	11:55	
0.900782616	682.482483	187.4808	11:57	
0.851332064	645.010925	187.1581	11:59	
0.786377920	595.789063	186.6023	12:03	
0.749792401	568.063782	186.2402	12:06	
0.700205353	530.488953	185.7076	12:09	
0.651070895	493.255951	185.0504	12:13	
0.604842155	458.221863	183.7415	12:19	
0.566274881	428.968109	172.2801	12:40	
			12:53	757.487366
0.554201311	419.790466	161.5406	13:04	
0.539139437	408.365601	147.0696	13:22	
0.520063703	393.901489	135.2000	13:40	
0.505443089	382.811066	128.9550	14:00	
0.473595918	358.678284	117.0491	14:16	
0.452885690	342.976990	109.5910	14:38	
0.411564275	311.673523	99.1348	14:53	
			14:55	757.286743
0.399884472	302.827209	96.9422	15:03	
0.356360155	269.866821	90.1186	15:14	
0.302994321	229.453583	82.6925	15:24	
0.251535074	190.484177	76.0933	15:34	
0.200904506	152.142319	69.9549	15:44	
0.119908043	90.804771	60.2663	16:02	
0.101044823	76.519905	57.9097	16:09	

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BET Report

BET surface area: 257.3141 ± 0.9880 m²/g
Slope: 0.016663 ± 0.000064 g/cm³ STP
Y-intercept: 0.000252 ± 0.000010 g/cm³ STP
C: 66.998548
Qm: 59.1176 cm³/g STP
Correlation coefficient: 0.9999260
Molecular cross-sectional area: 0.1620 nm²

Relative Pressure (p/p°)	Quantity Adsorbed (cm ³ /g STP)	1/[Q(p°/p - 1)]
0.059453401	52.0776	0.001214
0.072408525	53.9849	0.001446
0.079709362	55.0001	0.001575
0.089630256	56.3168	0.001748
0.099216325	57.5644	0.001913
0.117416493	59.8233	0.002224
0.137964100	62.3089	0.002569
0.158144756	64.6996	0.002903
0.178090918	67.0466	0.003232
0.197825402	69.3682	0.003555
0.246800888	75.2277	0.004356
0.298453690	81.6993	0.005207

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BJH Desorption Pore Distribution Report

Standard

Halsey

$$t = 3.54 \left[-5 / \ln(p/p^0) \right] ^{0.333}$$

Width range: 1.7000 nm to 300.0000 nm

Adsorbate property factor: 0.95300 nm

Density conversion factor: 0.0015468

Fraction of pores open at both ends: 0.00

Pore Width Range (nm)	Average Width (nm)	Incremental Pore Volume (cm ³ /g)	Cumulative Pore Volume (cm ³ /g)	Incremental Pore Area (m ² /g)	Cumulative Pore Area (m ² /g)
40.8 - 26.7	30.8	0.000375	0.000375	0.049	0.049
26.7 - 21.3	23.3	0.000305	0.000681	0.052	0.101
21.3 - 20.8	21.0	0.000129	0.000810	0.025	0.126
20.8 - 14.1	16.1	0.000657	0.001467	0.163	0.289
14.1 - 9.9	11.2	0.001233	0.002699	0.441	0.730
9.9 - 8.5	9.0	0.000836	0.003535	0.370	1.100
8.5 - 7.1	7.6	0.001294	0.004830	0.681	1.781
7.1 - 6.0	6.5	0.001696	0.006526	1.050	2.831
6.0 - 5.3	5.6	0.003692	0.010218	2.627	5.458
5.3 - 4.8	5.0	0.035472	0.045690	28.197	33.655
4.8 - 4.7	4.7	0.034053	0.079743	28.742	62.397
4.7 - 4.5	4.6	0.046279	0.126022	40.375	102.772
4.5 - 4.3	4.4	0.037563	0.163586	34.133	136.905
4.3 - 4.2	4.2	0.019210	0.182796	18.142	155.047
4.2 - 3.9	4.0	0.036756	0.219552	36.638	191.684
3.9 - 3.7	3.8	0.023053	0.242605	24.306	215.991
3.7 - 3.4	3.5	0.030519	0.273125	34.458	250.448
3.4 - 3.3	3.4	0.005615	0.278740	6.677	257.125
3.3 - 3.0	3.2	0.016231	0.294971	20.489	277.614
3.0 - 2.7	2.9	0.016523	0.311494	23.035	300.648
2.7 - 2.5	2.6	0.013467	0.324961	20.850	321.498
2.5 - 2.2	2.3	0.011017	0.335978	18.939	340.437
2.2 - 1.8	2.0	0.013702	0.349679	27.663	368.100
1.8 - 1.7	1.8	0.001718	0.351397	3.835	371.936

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