



BOND BALL MILL WORK INDEX

TEST REPORT

No. 7 / 04.06.14

1. Sample Name : Anthracite coal
2. Test Procedure: Bond Work Index Determination Method
3. Test Equipment: Standard Bond Ball Mill

Mill size: D X L = 305 x 305 mm

Mill volume: 22.3 dm³

Lining of the mill: smooth steel

Rotation speed: 70 rpm (85% of n_{crit})

4. Grinding Media: Steel Balls

Total grinding media mass – 22.544 kg

Grinding media size distribution:

Balls number	Ball diameter	Balls number	Ball diameter
43	38.10 mm	71	19.05 mm
67	31.75 mm	94	15.87 mm
10	25.40 mm		

5. Contractor: "RELO-BG" Ltd.

6. Sample mass: 10kg.

7. Receiving Date 15.05.14



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TEST RESULTS

Feed Particle Size Distribution

Sieve openings (mm)	Undersize percentage	
	Partial (%)	Cumulative (%)
3.15	13.66	100.00
2.50	30.00	86.34
1.60	35.46	56.34
0.500	6.96	20.88
0.315	2.60	13.92
0.250	7.03	11.32
0.080	0.80	4.29
0.071	3.49	3.49
Total	100.00	

End Product Particle Size Distribution

Sieve openings (mm)	Undersize percentage продукт	
	Partial (%)	Cumulative (%)
0.100	10.82	100.00
0.080	10.30	89.18
0.071	12.10	78.88
0.063	12.88	66.78
0.056	53.90	53.90
Total	100.00	

Bond Work Index

D_{80} particle size of the feed, (mm)	d_{80} particle size of the end product (mm)	End product specific mass, (g/rev)	W_G^* (kWh/g)	W_i^{**} (kWh/t)
2.30	0.070	0.60	$1.7 \cdot 10^{-2}$	29.2

^{*)} W_G – Energy consumption per g end product

^{**)} W_i - Bond Work Index.

Bond Work Index of sample is determined as: 29.2 kWh/t

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In accordance with Client's instructions, the Company's involvement has been limited to witnessing/observing a third party's intervention(s) at the third party's laboratory/test house or other facilities and installations used for the intervention(s). The Company's sole responsibility was to be present at the time of the third party's intervention(s) to forward the results, or confirm the occurrence, of the intervention(s). The Company is not responsible for the condition or calibration of apparatus, instruments and measuring devices used, the analysis methods applied the qualifications, actions or omissions of the third party's personnel or the analysis results.

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For and on behalf of SGS Bulgaria Ltd.

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