



BOND BALL MILL WORK INDEX

TEST REPORT

No. 8 / 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: "Relo - C" bodies

Total grinding media mass – 21.468 kg

Grinding media size distribution:

Body number	Body diameter, d_y equivalent volume	Body number	Body diameter, d_y equivalent volume
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: 10 kg.

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	15.56	100.00
0.080	11.11	84.44
0.071	14.77	73.33
0.063	9.28	58.56
0.056	49.28	49.28
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	0.076	0.64	1.55·10 ⁻²	27.8

*) W_G – Energy consumption per gram end product

**) W_i - Bond Work Index.

Bond Work Index of sample is determined as: 27.8 kWh/t

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For and on behalf of SGS Bulgaria Ltd.

