



Market Research of Paper Coating and Filling Pigments in Russia/CIS

Sample PDF

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1. Production of paper coating and filler pigments in Russia/CIS

1.1. Ground calcium carbonate (GCC)

1.1.1. Quality requirements

Now in the CIS countries the main volume of GCC is produced according to TU (Technical conditions) quality requirements, developed by producers. It is caused by constantly increasing requirements to quality of products, essential expansion of its assortment, while state standards (GOST) on GCC products (GOST 17498-72 "Chalk. Kinds, grades and basic technical requirements" and GOST 12085-88 "Processed chalk. Technical conditions") have been accepted more than 20 years ago.

Quality requirements for GCC grades used in the paper industry are shown in the table 1.

Table 1. Quality requirements for grades of GCC used in the paper industry

<i>Parameter</i>	<i>Standard for grades</i>										
	<i>MPNB-2</i>	<i>M-3</i>	<i>M-60</i>	<i>M-90</i>	<i>L-90</i>	<i>MMS-1</i>	<i>MMS-2</i>	<i>M-10</i>	<i>M-20</i>	<i>STM-10</i>	<i>STM-20</i>
CaCO ₃ +MgCO ₃ , mass %, minimum	97.0	98.3	98.5	98.5	98.5	98.2	98.2	98.3	98.3	98.0	97.0
Residue insoluble in HCl, mass % maximum	-	0.9	0.8	1.0	0.8	1.3	1.5	1.0	1.0	1.8	1.8
Fe ₂ O ₃ + Al ₂ O ₃ , mass % maximum	-	0.3	0.3	0.2	0.3	0.4	0.6	0.4	0.4	0.5	0.5
Fe ₂ O ₃ , mass %, maximum	-	0.1	0.1	0.1	0.1	0.15	0.25	0.15	0.15	0.15	0.2
Water-soluble components, mass %, maximum	0.1	-	-	-	-	0.1	0.25	0.1	0.1	0.1	0.15
Moisture, %	10	0.3	0.3	0.3	-	0.2	0.2	0.2	0.2	0.2	0.2
Whiteness, % minimum	84	85	85	86	85	90	85	86.5	86.5	89	85
Residue, %, maximum at sieve											
№02	0.05	-	-	-	-	-	-	-	-	-	-
№009	0.4	-	-	-	-	-	0.4	-	-	-	-
№014	-	-	-	-	-	-	-	-	-	-	0.02
№0045	-	0.1	0.02	0.01	0.01	1.0	-	-	-	0.05	0.1
Grain size, microns:											
99% below than	-	25	10	4.5	-	-	-	10	20	-	-
90% below than	-	10	5	2.5	-	-	-	3	8	-	-
50% below than	-	3	2.2	1.0	-	-	-	1.7	3	-	-

Source: InfoMine data

1.1.2. GCC production in Russia

Production of GCC for the paper industry in Russia for the period 2002-2004 decreased on 44%. It happened because large consumers of this products began to use PCC except GCC. However last three years in the country GCC production is growing due to increasing of paper production in the country, and with growth of export supplies of Russian GCC to Ukraine.

Today capacities of GCC (based on chalk) producers are concentrated in the Belgorod region because there are a large reserves of high-quality raw material (more than 40 % of the Russian reserves of chalk). Producers of GCC based on marble are concentrated mainly in Chelyabinsk region (table 2).

Table 2. Volumes of GCC for paper industry production in Russia in 2002-2007, kt

<i>Producer</i>	<i>Region</i>	<i>Volume of production, kt</i>					
		<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
JCS Melstrom	Belgorod region	14,5	15,4	18,8	28,6	25,5	33,0
JSC Stoilensky GOK*	Belgorod region	27,3	20,0	25,9	20,0	23,8	14,2
LLC OMYA Ural	Chelyabinsk region	-	-	-	-	1,7	13,3
JSC Shebekinsky melovoy zavod	Belgorod region	49,4	24,4	17,8	15,2	16,2	13,1
JSC Stroymaterialy	Belgorod region	17,9	17,5	1,6	1,6	1,8	2,4
JSC Ruslime	Belgorod region	3,7	1,0	0,7	0,6	0,7	1,3
JSC Geokom	Kaluga region	-	0,7	0,1	0,4	0,1	0,2
LLC Microcalcit	Chelyabinsk region	-	-	-	0,1	0,3	0,2
Others		3,5	0,7	0,2	0,3	-	0,3
Total:		116,3	79,7	65,2	66,9	70,1	78,0

* - GOK – mining&processing combine

Source: InfoMine data

1.1.3. Major GCC producers in Russia

JSC Melstrom (Belgorod region)

Company was founded in 1926 г. and exploits Petropavlovskoe deposit of chalk (reserves 16.7 Mt). It is specialized in chalk (including GCC) and lime production.

JSC Melstrom produces 11 grades of chalk (table 3) including GCC for paper industry, and also various types of finishing materials on chalk basis (coatinngs, paints, dry mixtures, etc.). Capacity on chalk production are estimated as 160 kt per year (capacity utilization 94%). Share of GCC (for paper industry)

production is ap. 22% (33 kt in 2007). Company supplies paper producer with following grades of GCC: MPNB-2, STM-10, STM-20.

Table 3. Quality requirements for chalk produced by JSC Melstrom

<i>Parameter</i>	<i>Standard for grades</i>									
	<i>MTD-2</i>	<i>VD</i>	<i>MPNB-2</i>	<i>MM-2</i>	<i>MMS-2</i>	<i>MMHP-2</i>	<i>MMZhp</i>	<i>STM-10</i>	<i>STM-20</i>	<i>STM-40</i>
CaCO ₃ +MgCO ₃ , mass %, minimum	96.0	96.5	97.0	95.0	98.2	97.0	88.0	98.0	97.0	96.5
Residue insoluble in HCl, mass % maximum	2.0	2.0	2.0	2.0	1.5	2.0	5.0	1.8	1.8	2.0
Fe ₂ O ₃ + Al ₂ O ₃ , mass % maximum	0.7	-	-	-	0.6	0.6	-	0.5	0.5	0.25
Fe ₂ O ₃ , mass %, maximum	0.25	0.25	-	0.2	0.25	0.25	-	0.15	0.2	0.25
Free alkali, recalculated to CaO, mass %, maximum	-	-	-	-	0.04	0.04	-	-	-	-
Cu, mass %, maximum	0.001	-	-	-	0.001	0.001	-	-	-	-
Mn, mass %, maximum	-	-	-	-	0.02	0.02	-	-	-	-
Water-soluble components, mass %, maximum	0.25	0.25	0.25	-	0.25	0.25	-	0.1	0.15	0.2
SO ₄ + Cl ⁻ in aqueous extract, mass %, maximum	-	-	-	-	0.04	0.04	-	-	-	-
Moisture, %	0.15	0.2	10.0	2.0	0.2	0.2	6.0	0.2	0.2	0.2
Content of Fe, recoverable by magnet, mass %, maximum	0.03	0.02	-	-	0.02	0.02	30.0	0.02	0.02	0.03
Sand, mass %, maximum	-	-	-	-	0.03	0.06	-	0.03	0.04	0.06
Whiteness, % minimum	85.0	85.0	89.0	-	85.0	85.0	-	89.0	85.0	85.0
Residue, %, maximum at sieve #:										
014	0.8	0.1	-	-	0.4	0.6	-	отс.	0.02	0.02
0045	-	0.8	-	-	-	-	-	0.05	0.1	0.5
009	-	-	0.4	-	-	-	-	-	-	-
02	-	-	0.05	3.0	-	-	-	-	-	-

Source: data of the company

Table 4. Volumes and destinations of GCC supplies of JSC Melstrom in 2005-2007, t

<i>Consumer</i>	<i>Region</i>	<i>Volumes of supplies, t</i>		
		<i>2005</i>	<i>2006</i>	<i>2007</i>
JSC Kotlassky TcBK*	Arkhangelsk region	28158	24943	25721
Krasnokamsk paper mill of GOZNAK	Perm region	-	-	3769
JSC Arkhangelsky TcBK	Arkhangelsk region	-	-	1585
LLC Nemansky TcBK	Kaliningrad region	-	-	1167
JSC Mondi-Syktvykarsky LPK**	Republic of Komi	-	-	345
JSC Serpukhovskaya paper mill	Moscow region	404	527	200
JSC Turinsky TcBZ***	Sverdlovsk region	68	-	200
Total		28630	23210	32987

* TcBK - pulp&paper combine

** LPK – wood processing combine

*** TcBZ – pulp&paper plant

Source: Russian domestic railage statistics, estimate of InfoMine

There was no GCC export supplies in 2005-2007.

JSC Stoilensky GOK (Belgorod region)

JSC “Stoilensky GOK” exploits Stoilenskoye deposit of iron ore and ferruginous quartzite situated near Stary Oskol, Belgorod Region. The deposit is covered with sedimentary of 50-200 meters of thickness. The mass of chalk comprises 75% of this rock. Reserves of chalk at the deposit are over 490 million tons.

The chalk extracted by the enterprise is used for production of cement, GCC, as well as is stored in dumps.

In 1998 a GCC plant, based on the project of Swiss company Mabeteks, was built at Stoilensky GOK. Planned production capacity is 300 kt of GCC per year. For GCC production, the enterprise uses the technology of wet concentration of the raw chalk.

The GCC plant of JSC Stoilensky GOK at present produces six brands of GCC (table 23).

Table 5. Quality requirements for chalk produced by JSC Stoilensky GOK

<i>Parameter</i>	<i>Standard for grades</i>					
	<i>M-40</i>	<i>M-20</i>	<i>M-10</i>	<i>M-5</i>	<i>M-10Г</i>	<i>M-5Г</i>
CaCO ₃ +MgCO ₃ , mass %, minimum	98,3	98,3	98,3	98,3	98,3	98,3
Residue insoluble in HCl, mass % maximum	1,0	1,0	1,0	1,0	1,0	1,0
Fe ₂ O ₃ + Al ₂ O ₃ , mass % maximum	0,4	0,4	0,4	0,4	0,4	0,4
Fe ₂ O ₃ , mass %, maximum	0,15	0,15	0,15	0,15	0,15	0,15
Free alkali, recalculated to CaO, mass %, maximum	0,01	0,01	0,01	0,01	0,01	0,01

<i>Parameter</i>	<i>Standard for grades</i>					
	<i>M-40</i>	<i>M-20</i>	<i>M-10</i>	<i>M-5</i>	<i>M-10Г</i>	<i>M-5Г</i>
Mn, mass %, maximum	0,035	0,035	0,035	0,035	0,035	0,035
Cu, mass %, maximum	0,001	0,001	0,001	0,001	0,001	0,001
Water-soluble components, mass %, maximum	0,1	0,1	0,1	0,1	0,1	0,1
SO ₄ + Cl ⁻ in aqueous extract, mass %, maximum	0,04	0,04	0,04	0,04	0,04	0,04
Moisture, %	0,2	0,2	0,2	0,2	0,2	0,2
Sand, mass %, maximum	0,03	0,03	0,03	0,03	0,03	0,03
(Ry,C/2 DIN 53163), % minimum	86,5	86,5	86,5	86,5	86,5	86,5
Whiteness (TAPPI R=457 nm), % minimum	84,0	84,0	84,0	84,0	84,0	84,0
Reflection index CIE Lab, % minimum	95,0	95,0	95,0	95,0	95,0	95,0
Grain size, microns:						
98 % below than	40	20	10	5	10	5
90 % below than	15	8	3	2	3	2
50 % below than	4	3	1,7	0,8	1,7	0,8
Share of a class less than 2 micron, %	40	60	65	75	65	75

Source: data of the company

During recent years, production capacities of the plant have not been used over 25%. In 2005-2007 the company produced 60-70 kt of GCC. According to InfoMine data only about 20% of produced GCC is used in the paper industry. The company supplies mainly M-10 grade for paper producers.

Major consumer of GCC are Krasnokamsk paper mill of GOZNAK (Perm region) and JSC Arkhangelsky TcBK (Arkhangelsk region). They use ap. 75% of total volume of supplies of Stoilensky GOK to paper mills (table 6).

Table 6. Volumes and destinations of GCC supplies of JSC Stoilensky GOK in 2005-2007, t

<i>Consumer</i>	<i>Region</i>	<i>Volumes of supplies, t</i>		
		<i>2005</i>	<i>2006</i>	<i>2007</i>
Krasnokamsk paper mill of GOZNAK	Perm region	11800	11499	6789
JSC Arkhangelsky TcBK*	Arkhangelsk region	6033	6133	3927
LLC Nemansky TcBK	Kaliningrad region	964	3748	1806
JSC Kotlassky TcBK	Arkhangelsk region	-	-	1180
JSC St.Petersburg board and polygraphic combine	St. Petersburg	-	-	257
LLC Visherskaya paper company	Perm region	-	152	107
JSC Mondi-Syktyvkarsky LPK**	Republic of Komi	548	439	103
JSC Kammenogorskaya offset paper mill	Leningrad region	653	1825	-
Total		19998	23796	14196

* TcBK - pulp&paper combine; ** LPK – wood processing combine

Source: Russian domestic railgate statistics, estimate of InfoMine

JSC Stoilensky GOK doesn't export GCC for paper industry.

JSC Shebekinsky melovoy zavod (Belgorod region)

JSC Shebekinsky Melovoy Zavod extracts and produces chalk of different brands, including several brands of GCC. Company exploits Logovsoe deposit of chalk with reserves of 18 Mt.

According to data from “InfoMine”, at present, production capacity of the chalk-producing plant is about 350 kt per year, capacity utilization – about 50%.

GCC is produced by dry milling of chalk with further grading. In 2006 in GCC-producing shop modern processing equipment produced in Spain was installed. At recent years company produces 100-115 kt of dry-milled chalk, 50-52 kt of separated chalk. According to InfoMine data, share of GCC for the paper industry production in 2007 was about 8% from the total volume of GCC production.

Company supplies paper producer with MPNB and MMS-2 GCC grades.

Table 7. Quality requirements for chalk produced by JSC Shebekinsky melovoy zavod

<i>Parameter</i>	<i>Standard for grades</i>									
	<i>MMO</i>	<i>MMOR</i>	<i>MMS-1</i>	<i>MMS-2</i>	<i>MTD-1</i>	<i>MTD-2</i>	<i>MPNB</i>	<i>separated hydrophobized chalk</i>	<i>milled hydrophobized chalk</i>	<i>modified chalk for plastizols</i>
CaCO ₃ +MgCO ₃ . mass %. minimum	98.5	98.5	98.2	98.2	98.0	96.0	97.0	96.3	94.5	96.0
Residue insoluble in HCl. mass % maximum	0.8	1.3	1.3	1.5	1.5	2.0	-	1.5	2.0	1.6
Fe ₂ O ₃ + Al ₂ O ₃ . mass % maximum	0.4	0.4	0.4	0.6	0.6	0.7	-	-	-	-
Fe ₂ O ₃ . mass %. maximum	0.15	0.15	0.15	0.25	0.25	0.25	-	0.25	0.25	-
Free alkali. recalculated to CaO. mass %. maximum	0.010	0.010	0.020	0.040	-	-	-	-	-	-
Mn. mass %. maximum	0.010	0.010	0.015	0.020	0.010	0.020	-	-	-	-
Cu. mass %. maximum	0.001	0.001	0.001	0.001	0.001	0.001	-	-	-	-
Water-soluble components. mass %. maximum	0.10	0.10	0.10	0.25	-	0.25	0.1	-	-	-
SO ₄ + Cl ⁻ in aqueous extract. mass %. maximum	-	0.05	0.01	0.01	-	-	-	-	-	-

<i>Parameter</i>	<i>Standard for grades</i>									
	<i>MMO</i>	<i>MMOR</i>	<i>MMS-1</i>	<i>MMS-2</i>	<i>MTD-1</i>	<i>MTD-2</i>	<i>MPNB</i>	<i>separated hydrophobized chalk</i>	<i>milled hydrophobized chalk</i>	<i>modified chalk for plastizols</i>
Moisture. %	0.15	0.15	0.20	0.20	0.15	0.15	10.0	0.3	0.5	0.3
Content of Fe . recoverable by magnet. mass %. maximum	0.02	0.02	0.02	0.02	-	0.03	-	-	0.03	-
Sand. mass %. maximum	0.015	0.015	0.020	0.030	-	-	-	0.05	-	-
Reflection index CIE Lab. % minimum	90	90	90	85	90	85	84	82	75	-
Residue. %. maximum at sieve #										
02	-	-	-	-	-	-	0.05	-	-	-
009	-	-	-	0.40	-	-	0.4	-	-	-
014	-	-	-	-	0.4	0.8	-	0.5	0.9	0.5
0045	0.5	0.5	1.0	-	-	-	-	-	-	-

Source: data of the company

Table 8. Volumes and destinations of GCC supplies of JSC Shebekinsky melovoy zavod in 2005-2007, t

<i>Consumer</i>	<i>Region</i>	<i>Volumes of supplies, t</i>		
		<i>2005</i>	<i>2006</i>	<i>2007</i>
JSC Arkhangelsky TcBK*	Arkhangelsk region	3307	3203	3947
JSC Turinsky TcBZ**	Sverdlovsk region	3086	2863	3376
LLC Sovetskaya bumaga	Kaliningrad region	1984	2558	2696
St.Petersburg paper mill of GOZNAK	Leningrad region	2304	2112	1664
JSC Kotlassky TcBK	Arkhangelsk region	629	4203	901
JSC Mondi-Syktvykarsky LPK***	Republic of Komi	256	540	320
JSC Serpukhovskaya paper mill	Moscow region	-	-	192
Krasnokamsk paper mill of GOZNAK	Perm region	1362	332	-
LLC Visherskaya paper company	Perm region	-	320	-
JSC Ust-Ilimsky LPK	Irkutsk region	-	56	-

<i>Consumer</i>	<i>Region</i>	<i>Volumes of supplies, t</i>		
		<i>2005</i>	<i>2006</i>	<i>2007</i>
LLC Nemansky TcBK	Kaliningrad region	2168	-	-
JSC Kammenogorskaya offset paper mill	Leningrad region	64	-	-
Total		15193	16187	13096

* TcBK - pulp&paper combine

** TcBZ – pulp&paper plant

*** LPK – wood processing combine

Source: Russian domestic railgate statistics, estimate of InfoMine

Till 2004 company also exported GCC (MMS-2) to Ukraine for JSC Dnepropetrovsk paper mill, but later all volumes of GCC for paper industry were supplied only for Russian consumers.

JSC Stroymaterialy (Belgorod region)

The enterprise was founded in 1861. At present, JSC Stroymaterialy is one of the largest manufacturers of building materials in Belgorod Region. The principal commodity product is lime-sand brick, lime and chalk including GCC.

For producing of building materials the enterprise itself exploits Zelenaya Poliana deposit of chalk with reserves 12.8 Mt. Planned production capacity is 1.0 Mt of rock per year. Volume of chalk extraction in 2007 was about 240 kt, 170 kt was used for lime production.

The enterprise's capacity on milled chalk production is about 100 kt per year. Capacity utilization – less than 70%. Share of GCC production – about 75% from total volume of chalk production. Recent years JSC Stroymaterialy produces 50-51 kt of GCC of all grades (quality requirements are shown in the table 9). Share of GCC for the paper industry is less than 5%.

Table 9. Quality requirements for chalk produced by JSC Stroymaterialy

<i>Parameter</i>	<i>Standard for grades</i>					
	<i>chalk for compound feed</i>	<i>MMHP</i>	<i>MMS-2</i>	<i>MTD-1</i>	<i>MTD-2</i>	<i>fine milled chalk</i>
CaCO ₃ +MgCO ₃ , mass %, minimum	88.0	97.0	98.2	98.0	96.0	98.0
Residue insoluble in HCl, mass % maximum	5.0	2.0	1.5	1.5	2.0	1.0
Fe ₂ O ₃ + Al ₂ O ₃ , mass % maximum	5.0	0.6	0.6	0.6	0.7	
Fe ₂ O ₃ , mass %, maximum		0.35	0.25	0.25	0.25	
Residue, %, maximum at sieve # 014		0.6	0.4	0.4	0.8	
Grain size, microns:						
99% below than						19.4
90% below than						5.8

<i>Parameter</i>	<i>Standard for grades</i>					
	<i>chalk for compound feed</i>	<i>MMHP</i>	<i>MMS-2</i>	<i>MTD-1</i>	<i>MTD-2</i>	<i>fine milled chalk</i>
50% below than						2.1
Whiteness, % minimum				85	84	84
Reflection index CIE Lab, % minimum	-	85.0	85.0	90.0	85.0	95.2
Moisture, %	6.0	0.15	0.15	0.15	0.15	0.30

Source: data of the company

Main part of produced GCC for paper industry JSC Stroymaterialy exports to Ukraine for JSC Dnepropetrovsk paper mill (1.4-1.8 kt per year).

In 2003-2006 company didn't supply Russian paper producers with GCC. In 2007 it supplied 1.0 kt of GCC to several Russian paper producers (LLC Nemansky TcBK – 529 t, JSC Arkhangelsky TcBK – 38 t, JSC Ust-Ilimsky LPK – 247 t, and Krasnokamsk paper mill of GOZNAK – 186 t).

JSC Ruslime (Belgorod region)

JSC Ruslime is a joint Russian-Spanish enterprise, founded by JSC Lebedinsky GOK (Russia) and REVERTE Productos Minerales S.A. (Spain).

The company processes chalk extracted by JSC Lebedinsky GOK at Lebedinskoye deposit (reserves 275.0 Mt). Chalk is a day-lighting rock, which covers iron-ore deposits exploited by Lebedinsky GOK. Chalk rock is partly processed at JSC Ruslime, the rest being stored in dump.

The works was built in 1995 based on the project of REVERTE Productos Minerales S.A. Today production capacity of GCC is about 220 kt per year. Capacity utilization in 2007 - 63,6%.

At present, the Ruslime produces 9 grades of GCC (table 10), including Litocarb L90 GCC aqueous suspension.

Table 10. Quality requirements for GCC produced by JSC Ruslime

<i>Parameter</i>	<i>Standard for grades</i>								
	<i>L-90</i>	<i>M-90T</i>	<i>M-90</i>	<i>M-60</i>	<i>M-60T</i>	<i>M-3</i>	<i>M-5</i>	<i>RC</i>	<i>Filler</i>
CaCO ₃ +MgCO ₃ , mass %, minimum	98.5	98.5	98.5	98.5	98.5	98.3	98.0	97.5	96.0
Residue insoluble in HCl, mass % maximum	1.0	1.0	1.0	0.8	0.8	0.9	1.0	2.0	-
Fe ₂ O ₃ + Al ₂ O ₃ , mass % maximum	0.2	0.2	0.2	0.3	0.3	0.3	0.3	-	-
Fe ₂ O ₃ , mass %, maximum	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-	-
Whiteness, % minimum	85.0	85.0	86.0	85.0	85.0	85.0	84.0	83.0	-
Grain size, microns:									

<i>Parameter</i>	<i>Standard for grades</i>								
	<i>L-90</i>	<i>M-90T</i>	<i>M-90</i>	<i>M-60</i>	<i>M-60T</i>	<i>M-3</i>	<i>M-5</i>	<i>RC</i>	<i>Filler</i>
99%, below than	4.5	4.5	4.5	10	10	25	40	-	-
90%, below than	2.5	2.5	2.5	5	5	10	15	-	60
50%, below than	1.0	1.0	1.0	2.2	2.2	3	5	-	-
Residue, %, maximum at sieve #									
0045	0.01	0.01	0.01	0.02	0.02	0.1	0.6	-	-
014	-	-	-	-	-	-	-	2.0	-
01	-	-	-	-	-	-	-	4.5	-
Moisture, %	-	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4

Source: data of the company

According to InfoMine data volume of GCC for paper industry productions is less than 1.5 kt per year. Main part of GCC is exported to Ukraine. At the Russian market company sells ap. 0.6 kt of GCC per year. Main consumers of GCC are: JSC St.Petersburg board and polygraphic combine, JSC Ust-Ilimsky LPK, LLC Sovetskaya bumaga and JSC Arkhangelsky TcBK.

LLC OMYA Ural (Chelyabinsk region)

LLC OMYA Ural is 100%-owned by OMYA (Austria). The company is located in Subutak village in Chelyabinsk region. GCC shop began production in 2006 using marble of Eleninskoe deposit as a raw material. Production capacity of GCC shop – 144 kt per year.

OMYA Ural produces following grades of GCC: Omyacarb 40 UR, Omyacarb 40 H UR, Omyacarb 15 UR, Omyacarb 5 UR, Omyacarb 2 UR, Hydrocarb 40 UR.

In 2007 according to InfoMine data company supplied Russian paper mills with 13.3 kt of GCC (2006 – 1.7 kt). Volumes and destinations of supplies in 2006-2007 are presented in the table 11.

Table 11. Volumes and destinations of GCC supplies of LLC OMYA Ural in 2005-2007, t

<i>Потребитель</i>	<i>Регион</i>	<i>Объем поставок, т</i>	
		<i>2006</i>	<i>2007</i>
JSC Mondi-Syktvykarsky LPK*	Republic of Komi	-	5024
JSC Kammenogorskaya offset paper mill	Leningrad region	1241	4999
LLC Nemansky TcBK**	Kaliningrad region	-	3312
JSC Kotlassky TcBK	Arkhangelsk region	449	-
Total		1690	13335

*LPK – wood processing combine

** TcBK - pulp&paper combine

Source: Russian domestic railage statistics, estimate of InfoMine

According to InfoMine data in 2008-2010 LLC OMYA Ural plans to increase volumes of GCC production for 15-20% each year.

New projects on GCC production in Russia

LLC Domedco Haksly Limited (Voronezh region)

In December 2007 company finished construction of the first stage of GCC plant on the base of Krupennikovskiy chalk open-pit mine in Voronezh region. Planned capacity – 120 kt of GCC per year, in 2008 company plans to produce about 97 kt of GCC.

At present time GC plant produces 3 grades of GCC which can be used in the paper industry (table 12).

Table 12. Quality requirements for GCC produced by LLC Domedko Haksly Limited

<i>Parameter</i>	<i>Standard for grades</i>		
	<i>DC-10</i>	<i>DC-25</i>	<i>DC-40</i>
CaCO ₃ +MgCO ₃ , mass %, minimum	98.7	98.6	98.2
Fe ₂ O ₃ + Al ₂ O ₃ , mass % maximum	0.3	0.3	0.3
Fe ₂ O ₃ , mass %, maximum	0.04	0.04	0.06
Residue insoluble in HCl, mass % maximum	0.72	0.88	0.9
Grain size, microns: 99%, below than	9.0	21.1	40.0
90%, below than	5.0	8.1	10.0
50%, below than	2.0	2.1	2.4
Whiteness, % minimum	86.2	85.7	84.6
Moisture, %	0.15	0.19	0.20

Source: data of the company

LLC Polygon-Service (Belgorod region)

In 2007 company finished construction of the GCC plant "Kreider" near the village Sheino in Belgorod region. The plant uses chalk rock of Sheinskoe deposit. Technological equipment for GCC production was supplied by Micron Proces (Spain). Polygon-Service has began GCC production in February of 2008. According to the company data, they plan to produce 6 grades of GCC (table 13).

Table 13. Quality requirements for GCC produced by LLC Polygon-Service

<i>Parameter</i>	<i>Standard for grades</i>					
	<i>MK-90T</i>	<i>MK-90</i>	<i>MK-60</i>	<i>MK-5</i>	<i>MS-60 (slurry)</i>	<i>MKZh-3</i>
CaCO ₃ +MgCO ₃ , mass %, minimum	98.5	98.5	97.0	98.7	98.5	96.0
Residue insoluble in HCl, mass % maximum	0.8	0.8	1.0	1.0	0.8	1.5
Fe ₂ O ₃ + Al ₂ O ₃ , mass % maximum	0.2	0.2	0.2	0.2	0.2	-
Fe ₂ O ₃ , mass %, maximum	0.08	0.08	0.08	0.08	0.08	-

<i>Parameter</i>	<i>Standard for grades</i>					
	<i>MK-90T</i>	<i>MK-90</i>	<i>MK-60</i>	<i>MK-5</i>	<i>MS-60 (slurry)</i>	<i>MKZh-3</i>
Whiteness, % minimum	94.5	94.5	94.5	94.5	94.5	94.0
Grain size, microns: 99%, below than	4.0	4.0	9.0	40.0	4.0	-
90%, below than	1.9	1.9	5.0	15.0	1.9	-
50%, below than	0.8	0.8	2.1	5.0	0.08	-
Residue, %, maximum at sieve # 0045	-	-	-	-	-	-
Residue, %, maximum at sieve # 014	-	-	-	-	-	1.0
Residue, %, maximum at sieve # 01	-	-	-	-	-	3.0
Moisture, %	0.2	0.2	0.2	0.2	60	0.3

Source: data of the company

Company plans to supply MK-90, MK-60, MK-5, MS-60 grades of GCC to Russian paper producers.

In December 2007 **OMYA** (Austria) announced plan of building of the second GCC plant in Russia. New enterprise will be located in Oplevskoy town, Sverdlovsk region and use for GCC production marbles of Polevskoy marble quarry which is operated by JSC Karat.

According to InfoMine data **OMYA** also plans to build GCC plant with capacity up to 500 kt per year in Tatarstan. New plant will use chalk as a raw material.