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Prospects for the Polish tiles industry

Key words

Ceramic tiles, gres porcelanato, kaolin, ceramic clays, feldspar raw materials

Abstract

The paper focuses on features observed in the Polish ceramic tile industry in recent decade as it has been one of the fastest developing sectors in the national economy. It refers both to the production (since 1990 fourfold increase up to 51m. m² in 2000), and the consumption volumes (up to 85 mln m²). The domestic tiles supply is expected to increase significantly as the investments in new plants are to be finished in 2001 and in the following years (the capacities of non-clinker tiles will increase from ca. 50m. m²py in 2000 up to 95m. m²py in 2003). It will result in further growth of the demand for the raw materials utilised in the production of tiles, particularly for white firing clays and feldspars. The availability of domestic and imported raw materials for that production is also discussed.

Introduction

The ceramic industry as a whole was one of the fastest developing sectors in Poland during the last decade. The value of its production exceeded 3 million PLN, i.e. around 700 million US\$. Among the ceramic branches, tiles lead in terms of production value (26%), while the share of tableware was 18%, and sanitaryware — 7%. Tiles sector reported the largest growth both in terms of the output (over fourfold since 1990, to 51m. m² in 2000, Figs. 1 and 2) and the consumption (to 85m. m²), as well as the highest annual rate of development (15—20%), being one of the most profitable businesses in the country.

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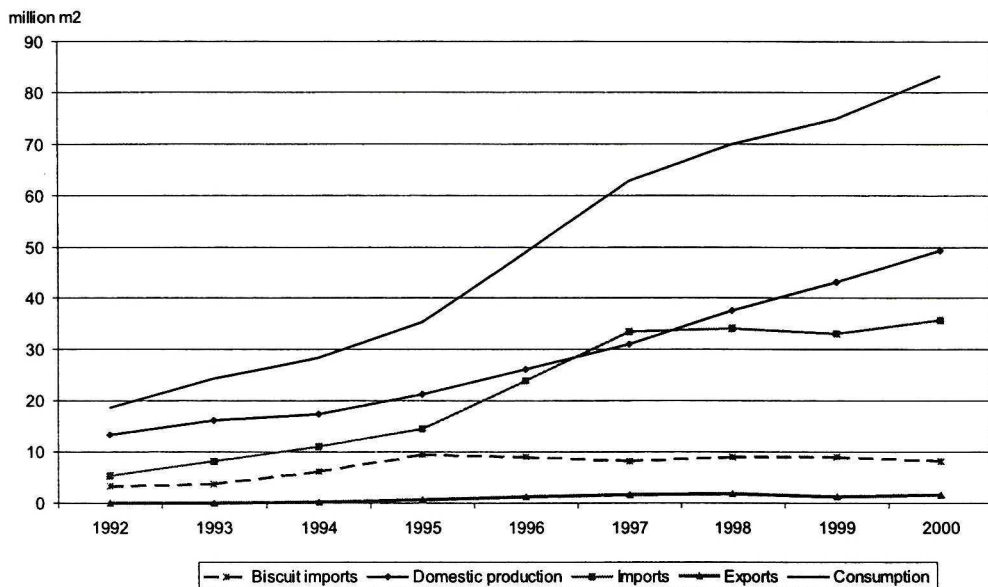


Fig. 1. Ceramic tiles statistics in Poland 1992—2000

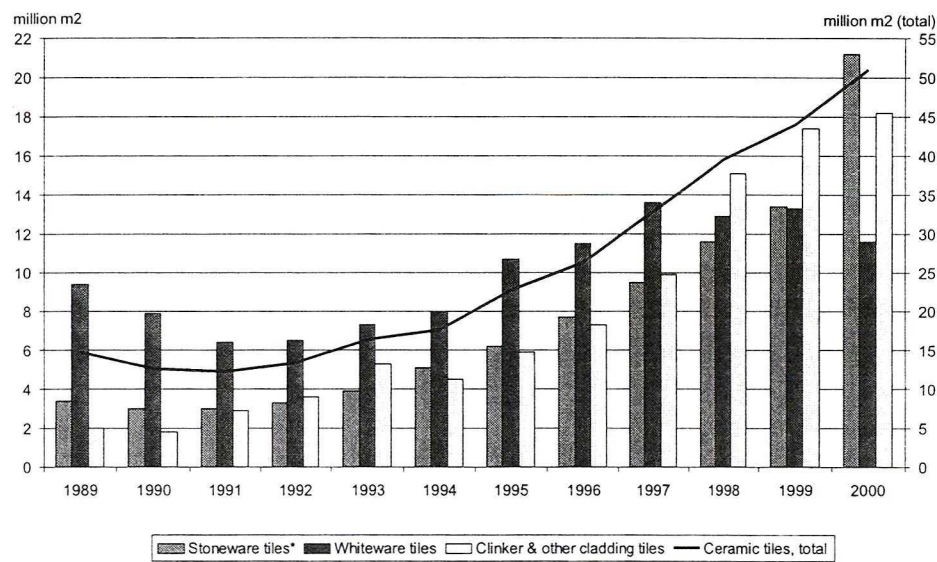
Rys. 1. Gospodarka płytkami ceramicznymi w Polsce w latach 1992—2000

The paper analyses the part of the sector excluding clinker and cladding tiles, as there the largest developments in the technology and demand for the raw materials took place in the 1990s. The sector experienced the large-scale investments in new facilities and technologies, resulting in increase of the production capacities from 50m. m² in 2000 to over 80m. m² in 2001. As demand of Polish ceramic tiles industry for raw materials is not entirely satisfied by domestic suppliers, this have to be supplemented by imports in increased quantities, particularly of white firing clays, kaolin, and feldspars.

1. Polish ceramic tiles market

The growth of the ceramic tile industry followed the improvement in the economy, boom in the housing construction and repairs in the 1990s. The increase of demand for tiles was spectacular: from under 20m. m² in the early 1990s to 85m. m² in 2000. In the mid-1990s, a significant growth in imports was also recorded. It stabilised at 33—35m. m²py since 1997. That was coupled with the construction of over a dozen new tile factories since 1990, particularly in the second half of the decade, and emergence of new players in the market. It is worth mentioning that some of them utilised foreign biscuits, imports of which have been 8—9m. m²py in recent years (Fig. 1). As new factories are commissioned in 2001—2003, the domestic production capacities will double to ca. 95m. m²py of ceramic tiles (excluding clinker and cladding ones) in 2003. In the production structure, increasing importance of porcelainised stoneware (gres porcelanato) has been registered. This will be continued, while the share of

traditional whiteware tiles (e.g. earthenware ones) is to be reduced. The capacities of porcelainised stoneware will amount to ca. 35%, i.e. 33m. m², of total domestic capacities in 2003, as compared to 17% in 2000 (Figs. 2, 3).



* Together with gres porcelanato tiles

Fig. 2. Ceramic tiles production in Poland
Rys. 2. Produkcja płytek ceramicznych w Polsce

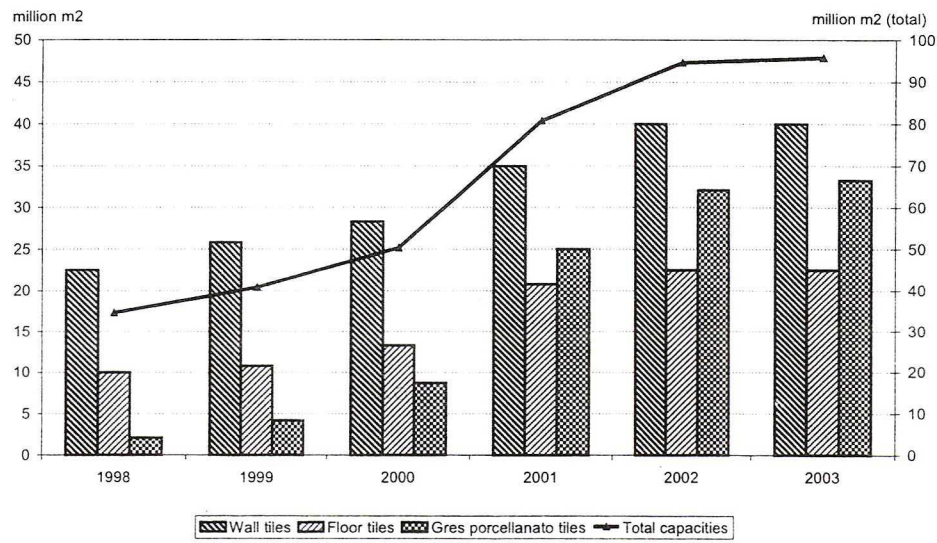


Fig. 3. Capacities of the Polish tile sector by the tile type
Rys. 3. Zdolności produkcyjne polskiego przemysłu płytek ceramicznych

The share of domestic producers in the Polish tiles market currently accounts for 45% (in terms of value), comparing to 39% in 1997 (Fig. 4), while Italy and Spain remain the two principal foreign suppliers. Total value of ceramic tiles market in Poland achieved 360—380m. US\$/y, with 160—170m. US\$ falling to domestic producers, 95—105m. US\$ — to Italian, and 65—85m. US\$ — to Spanish suppliers (Fig. 5). The increase in the production capacities will result in intense competition between foreign and domestic suppliers on Polish market. The prospects for further growth of this market are worse than they have been in recent years, as the domestic demand is not expected to exceed 100m. m²py in the next few years. Furthermore, domestic producers will have to capture a larger percentage of market at the cost of foreign suppliers, as well as they should increase their share in the international tiles market. It is assumed that the share of domestic producers in the Polish market could possibly approach maximum 75% (i.e. 75m. m²), while imports is expected to account min. 25%. To achieve this proportion, price and quality competition between Polish and foreign suppliers will be even more intense. This fact has been also well observed in recent years, when unit values (in terms of US\$) of both domestic and imported tiles have been gradually decreasing (Fig. 6).

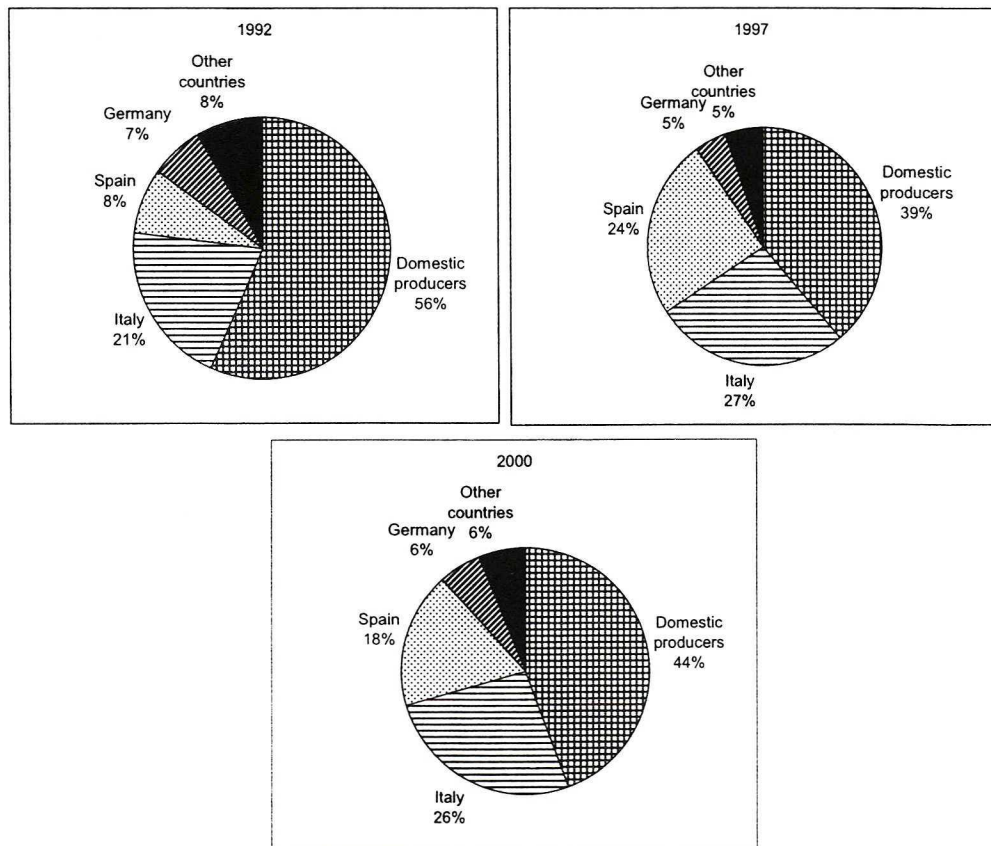


Fig. 4. Shares of tiles suppliers on Polish market

Rys. 4. Udział poszczególnych dostawców w krajowym rynku płytek ceramicznych

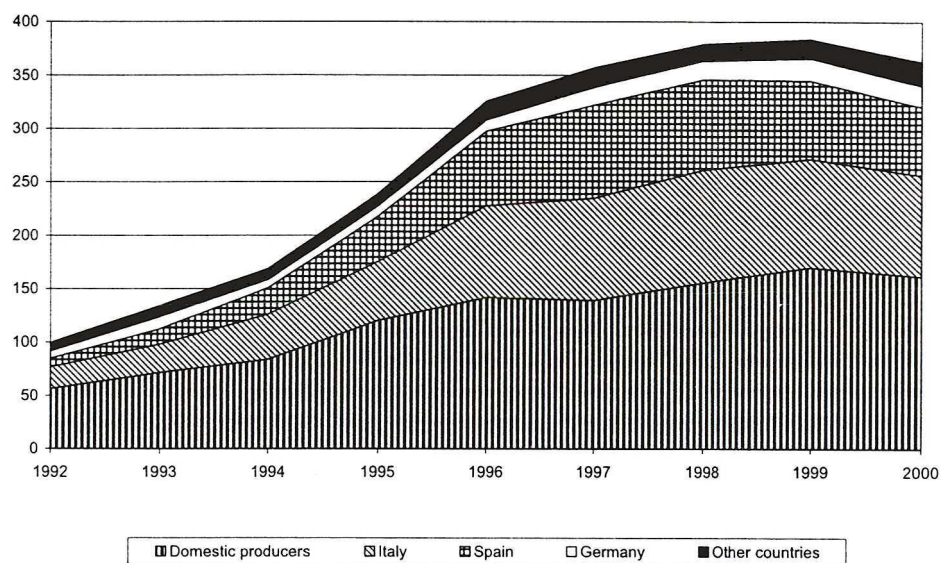


Fig. 5. Value of ceramic tiles sales on domestic market, by source (million US\$)

Rys. 5. Wartość sprzedaży na krajowym rynku płytek ceramicznych, według źródła (mln USD)

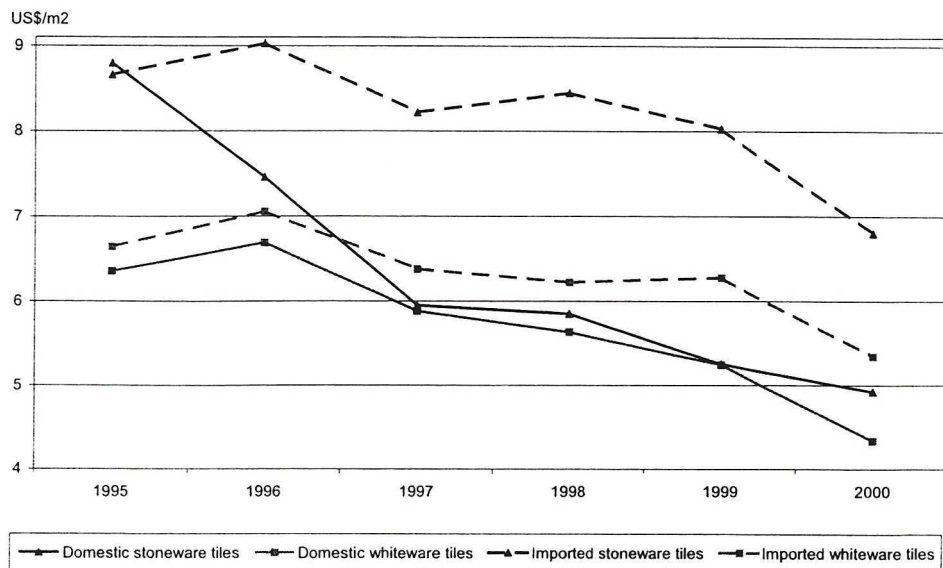


Fig. 6. Unit values of domestic and imported ceramic tiles

Rys. 6. Wartości jednostkowe sprzedaży płytek krajowych i importowanych

2. Ceramic tiles producers

There are around 20 companies involved in the sector (excluding producers of clinker and cladding tiles), the majority of which operates in the Opoczno-Końskie region (central Poland). Apart from the Opoczno S.A., being the largest and of the longest production tradition, the leaders of the market are the following companies: Paradyż Group, Tubądzin, Nowa Gala, Gres, Cersanit III (Table 1). Many of them appeared in the second half of the 1990s. A spectacular increase in domestic tile supply took place in 2001, when many of the new facilities started the operation or achieved the full capacity (Mazowsze plant of Opoczno, Cersanit III in Wałbrzych, plants of Paradyż Group in Tomaszów Mazowiecki, Ceramika Gres in Kopaniny). Currently the total capacity exceeds 80m. m², almost 50% of which falls into Opoczno and Paradyż Group (Fig. 7).

TABLE 1

Leading Polish tile producers (excluding clinker tiles) in 2001

TABELA 1

Czołowi producenci płytek ceramicznych (z wyjątkiem klinkierowych) w Polsce w 2001

Producer	Location of plants	Production since	Annual capacity [million m ²]	% of total capacity
Opoczno S.A.	Opoczno (4 plants)	1883 (1945)	23.0	28
Paradyż Group	Wielka Wola near Opoczno, Tomaszów Mazowiecki (2 plants), Opoczno	1991/1993	16.5	20
Cersanit III S.A.	Wałbrzych	2001	9.0	11
Ceramika Tubądzin S.C.	Tubądzin near Sieradz, Ozorków near Łódź	1983	5.7	7
Ceramika Gres S.A.	Kopaniny near Końskie	2001	5.0	6
Ceramika Nowa Gala S.A.	Końskie	1995	5.0	6
Polcolorit Ltd.	Piechowice near Jelenia Góra	1985	3.5	4
ZP Jopex S.C.	Zabrze	1989	2.5	3
ZPiWS Ceramika Pilch	Jasienica near Bielsko-Biała	1983	2.0	2
Cer-Rol Ltd.	Mniszków near Opoczno	1990	1.8	2
Ceramika Kopaniny Ltd.	Kopaniny near Końskie	1994	1.5	2
ZPPC Ceramika Eva	Wry near Katowice	1998	1.5	2
Ceramika Końskie Ltd.	Końskie	1996	1.4	2
Ceramika Unikat	Kopaniny near Końskie	1999	1.3	2
Ceramika Avanti Ltd.	Czeladź	1999	1.0	1
Cerkolor S.C.	Parczówek near Opoczno	1988	0.5	1

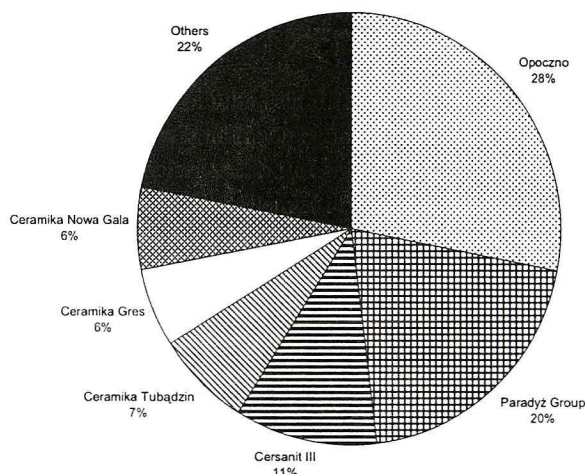


Fig. 7. Shares of leading tiles producers in total domestic capacities

Rys. 7. Udziały czołowych producentów płytek w łącznych krajowych zdolnościach produkcyjnych

Opoczno S.A.

The Opoczno S.A. is the largest of the Polish ceramic tile producers, which until the 1990s had almost monopolistic position on domestic ceramic tiles market. The Opoczno factory was the property of “Dziewulski & Lange” Co. from the beginning in 1883 up to 1945, when it was nationalised, being the state enterprise for the following over 50 years. In 1998, it was transformed into the Joint Stock Co. of the State Treasury — Opoczno S.A. Finally, in September 2000 Credit Suisse First Boston Ceramic Partners (Poland), private equity fund of CSFB, started to be the financial investor of Opoczno S.A., holding 50.2% of shares. The remaining share is held by the State Treasury (39.1%) and the workers (10.7%).

In the 1990s the company's production was continually increasing, and the Opoczno trade mark became one of the best known in Poland. Commencement of the new Mazowsze plant (6—7m. m²py, but it is to be developed to 10m. m²py) caused the increase of its share in the market to 21% in 2001, with the aim to achieve 23—25% in the next years. The total capacity of all the Opoczno's plants (Śląsk, Pomorze, Mazury, and the above-mentioned Mazowsze) increased to 23m. m²py, what currently gives 28% of total domestic capacities, with the possibility of further increase even up to 28m. m²py. The company offers wall and floor tiles, including *gres porcellanato* of large formats and trim pieces. It sources a major part of its demand for stoneware clay from its own mines: an underground operation Żarnów, and an open pit- Chełsty. Opoczno also purchase these clays from the Zebrzydowa mine of Ekoceramika Nowogrodzic, which supplies also some amounts of light burning clays. Other sources of clays for Opoczno are principally kaolin filter cakes from Surmin-Kaolin, Grudzeń Las, and Biała Góra, used in the main mass of the tile, with the kaolin granulate from Surmin-Kaolin used in the production of glazes. Feldspar in grit form comes from Strzeblowskie Mineral Mines (flour was formerly used), while in the form of quartz-feldspar powder from Wrocławskie Mineral Mines. Quartz sand is supplied by Grudzeń Las and Biała Góra. Some material is also imported, mainly

white firing clays from Ukraine, as their production is quite low in Poland. There are also minor imports of feldspar from Finland and the Czech Republic.

Presently, the majority of its sales are domestic, with 12% exported, especially to Russia, Lithuania, Slovakia, the Czech Republic, Germany, and Scandinavian countries. However, Opoczno is actively trying to increase the exported proportion.

Paradyż Group

The second largest Polish tile producer includes four plants: two of the Ceramika Paradyż S.J. founded in 1993 in Wielka Wola near Paradyż and in 1999 in Tomaszów Mazowiecki, one of the Nordbud Ltd. of Opoczno producing trim pieces (basically) and small-dimension tiles of gres type since 1991, and the Paradyż Ltd. which commenced a new plant in Tomaszów Mazowiecki in 2000. The Group increased the tiles output in the fastest rate among domestic producers, i.e. from 158,000 m² in 1993 to 8,400,000 m² in 2000 (anticipated 13,100,000 m² in 2001). The raw materials utilised are basically domestic. This is the only domestic producer with ISO 9001 certificate for the quality of tiles manufactured. The total capacity in its plants is currently approaching 16.5m. m²py, and is to be increased up to 22m. m²py, as the new plant Paradyż Ltd. in Tomaszów Mazowiecki will operate at full capacity (6m. m²py since 2002). The Group offers wall tiles (40% of the output), floor tiles (38%), and *gres porcellanato* (22%), supplemented by decorative trim pieces. The majority of the output is marketed in Poland, however the foreign sales are to be increased up to 20% of the production during 2001. The principal recipients have been Germany, the United Kingdom, the USA, Russia, Lithuania, Ukraine, the Czech Republic, Slovakia, and others.

Ceramika Tubądzin

This privately-owned company has been operated since 1983. The development of the company accelerated in 1994 and 1997 when new technological lines were installed and the capacity increased up to 3m. m²py. Now wall and floor tiles with white body for many sectors of the market are manufactured from domestic and imported raw materials basing on highly advanced technology at two production facilities with an annual capacity of 5.7m. m²py. This includes a new expansion in glazed floor tiles of *gres porcellanato* type commenced in Ozorków near Łódź in October of 2000, capacity of which is to be increased by additional 2m. m²py by 2002, when the total producer's capacity will achieve ca. 7m. m²py. The company is also the largest domestic supplier of decorative trim pieces, and has exported some percentage of the output to countries of the former Soviet Union. There are also prospects for development of sales to the West as the Tubądzin's tiles started to be highly appreciated by the Western European customers.

Ceramika Nowa Gala S.A.

The company was founded in 1994 in Kopaniny by the Gala — Centrum Budownictwa Ltd. (trade company) of Lublin. It commenced the production of double-fired wall tiles in 1995. In 1997 the company's ownership structure changed, incorporating a new shareholder, Compania Castellonense of Spain, and a building for the new plant was purchased in Końskie. Since then the development of the company accelerated. In 1999 the first new line for the production of single-fired floor tiles from domestic red clays was installed to expand the capacity to 3.3m. m²py in the first stage of the investment. The total capacity of three projected new lines

will approach 6.6m. m²py. The principal customers for tiles offered by the Nowa Gala are domestic consumers, however the sales to Eastern Europe countries are increasing. The company also plans to enter into German and Canadian markets.

Ceramika Gres S.A.

It is one of the youngest tile supplier in Poland. The company has been in business since 1999, while the tile plant was commenced in January of 2001 in Kopaniny near Końskie. Both the complete factory installation and technology have been purchased in Italian company Sacmi by the principal investor — the Innova Capital (over 90% of shares, the rest owned by private persons). The company's plans for the production development are the following: in 2001 — 5m. m² of *gres porcellanato* and floor tiles, in 2002 — 7.5m. m², and in 2003 — 10m. m². Ceramika Gres co-operates with another tile producer — Ceramika Kopaniny, next to which its new plant has been constructed. The latter one produces glazed wall tiles and trim pieces (1.5 mln m²/y) to order and designed by the Ceramika Gres.

Cersanit III S.A.

The tile plant was commenced in Wałbrzych in July of 2001 by the Cersanit S.A. — as a debut of a huge Polish sanitaryware producer on the tile market. The majority of shares (66%) is privately owned. There are 5 fully-automated production lines installed for manufacturing wide range of tiles, i.e. two lines for the production of single-fired floor and wall tiles, and three lines — for porcelainised stoneware (*gres porcellanato*). The plant's total annual capacity is 9m. m² but it is to be expanded up to 15m. m². The production bases on the raw materials extracted from local deposits in the Lower Silesia (SW Poland). Tiles will be sold through the Cersanit sales network and individual distributors of sanitaryware in Poland and abroad, i.e. in countries of the former Soviet Union, the European Union (in particular in Germany due to favourable location of the plant to the German border), and the USA.

Other tiles producers

The combined share of the remaining tile manufacturers in the domestic production can be estimated at ca. 35%. That group includes both the new manufacturers, which emerged in the 1990s often involving international capital, e.g. Cerkolor, Cer-Rol, Ceramika Końskie, Ceramika Kopaniny, Ceramika Eva, Ceramika Iza, and more mature ones, i.e. Jopex, Ceramika Avanti (former Józefów), Ceramika Pilch, which also invested in advanced technologies and offer high quality products to remain competitive. In 2001 however, their shares in the domestic market do not exceed 5%/each.

3. Ceramic raw materials

The principal raw materials utilised in the ceramics tiles industry are: clayey raw materials (kaolin, white firing and stoneware clays), feldspar raw materials (feldspar, feldspar-quartz or nepheline syenite grits and flours), and silica raw materials (silica sand). Strong growth of ceramic tiles production in Poland was the main reason of increasing demand for these raw materials. Moreover, changing technology of ceramic tiles production and evolution of their

assortment — e.g. introduction of single-firing, production of large format tiles, development of porcelainised stoneware (*gres porcellanato*) — forces raw material suppliers to constantly modify their products. That resulted in change in the use of raw materials, and the increase in demand for raw materials with low content of colouring oxides (Fe_2O_3 , TiO_2), i.e. washed kaolin, white firing clays, as well as for feldspar raw materials.

3.1. Kaolin and white firing clays

The main domestic supplier of washed kaolin is the Surmin-Kaolin S.A. (total production of 57,000 t in 2000, and ca. 70,000 t in 2001). The grades suitable for the production of ceramic tiles are basically KOC and FKW (with bentonite addition) obtained from kaolinite sandstone mined in its own Maria III deposit, and e.g. KS grade from “wastes” of quartz sand washing delivered by the Osiecznica mine (Fig. 8). These grades are characterised by low content of iron oxides



Fig. 8. Location of leading domestic sources of raw materials for tiles production

1 — kaolin: S-K — Surmin-Kaolin S.A.; 2 — light firing clays: Za — Żarnów mine (Opoczno S.A.), Zp — Zapniów mine (Jopex Co.), Ja — Jaro S.A.; 3 — stoneware clays: Ch — Chełsty mine (Opoczno S.A.), Ba — Baranów mine (Marywil Co.), Pa — Patoka mine (CRH Klinkier Patoka), Zb — Zebrzydowa mine (Ekoceramika Ltd.); 4 — feldspar-quartz raw materials: St — Strzeblowskie Mineral Mines Ltd., Gr — Graniczna mine (Wrocławskie Mineral Mines S.A.); 5 — quartz sand and kaolin: GL — Grudzeń Las Quartz Sand Pit Ltd., BG — Biała Góra Mineral Mines Ltd.

Rys. 8. Główne krajowe źródła surowców do produkcji płytek ceramicznych

(ca. 0.5%), but contain coarse-grained kaolinite-Tc of lamellar texture, and — as a consequence — possess low plasticity and weak mechanical strength. The second domestic supplier of kaolin for ceramic applications is the Grudzeń Las Quartz Sand Pit, delivering 25,000—35,000 tpy of kaolin cake. This kaolin is a by-product of quartz sand washing and the production level depends on kaolinite content in the deposit. Despite high content of Fe_2O_3 and TiO_2 (1.3% and 0.7%, respectively), the raw material is suitable for tiles production as it is characterised by high bending strength after drying and good rheology properties. Also the adjacent Biała Góra Mineral Mines started to supply significant quantities of kaolin from quartz sand washing in March 2001 (new installation — ca. 15,000 tpy).

Total kaolin consumption in the ceramic tiles industry is estimated at 70,000 t in 2000, comparing to under 10,000 tpy at the beginning of the 1990s. Such a growth was mostly a result of development of *gres porcellanato* tiles production. It comes primarily from domestic sources (Table 2).

White firing kaolinite clays suitable for tiles production are offered by the Surmin-Kaolin in a form of granulates. They are a blend of Maria III kaolin and Turowszów clay, coming from the Turow lignite mine, which is characterised by high whiteness after firing (ca. 80%), but contains impurities of lignite fines. Due to economic reasons and competition from imported clays, the production of these granulates tends to decrease (2,400—4,100 tpy recently).

White firing clays in a form of granulate and concentrate are also produced by the Ekoceramika of Nowogrodziec: BB1W grade from waste material stockpiled by the former Bolko mine (5,000—8,000 tpy), and Magnat grade on the basis of various clays (5,000—7,000 tpy). These raw materials have similar ceramic properties to white firing granulates from Surmin-Kaolin, but contain more colouring oxides (1.8—2.2%). In 2002, Ekoceramika will introduce new grades of white firing clays from the new Janina mine.

TABLE 2
Estimated demand for the the principal raw materials for ceramic tiles production in 2000 and 2003

TABELA 2
Szacunkowe wielkości zużycia najważniejszych grup surowców do produkcji płytek ceramicznych w 2000 i 2003 r.

	Kaolin	White-firing clays	Stoneware clays	Feldspar raw materials	Silica sand
2000					
Demand	70	90	190	180	80
Domestic sources	63	10	190	157	80
Imports	7	80	—	23	—
2003					
Demand	220	140	480	530	130
Domestic sources	110	20	480	330	130
Imports	110	120	—	200	—

Increasing amounts of white firing clays have to be imported as domestic reserves are limited and insufficient to meet the demand for high quality raw materials, suitable especially for the production of *gres porcellanato*. It is estimated that in 2000 there was ca. 80,000 t purchased (Table 2). The principal sources of imported raw material are Ukraine (ca. 60,000 t in 2000; e.g. DB-Y, DBM grades from WBB Eastern Europe), Germany (SL-J grade from WBB Kaolin und Tonwerke Lothain), the United Kingdom (WBT grade from WBB Devon Clays), and the Czech Republic (HLU, STC, KD grades from WBB Kaolin Hlubany, IB, AG, AGS grades from Kemat Skalna).

3.2. Stoneware clays

Domestic reserve base of stoneware clays is abundant (Fig. 8). Some deposits are the sources of light firing clays. The examples are Jurassic stoneware clay deposits in Opoczno vicinity, i.e. Żarnów II mined by Opoczno S.A. (30,000—40,000 tpy), and Zapniów extracted by Jopex (ca. 20,000 tpy). There are two varieties of Żarnów clay with high plasticity: light burning variety (0.8—1.0% Fe_2O_3) — used in *gres porcellanato* tiles, and grey variety (up to 4% Fe_2O_3) — used principally for the manufacture of glazed floor and wall tiles. Stoneware clays from Zapniów mine have similar properties to Żarnów clays (slightly worse plasticity, 1.2—1.6% Fe_2O_3), being used mainly in ceramic tiles, but also in sanitarywares.

Light firing stoneware clays are also produced from Tertiary deposit of Jarosów type by Jaro S.A. They were previously utilised entirely as refractory clays. However, as these clays have excellent properties for the production of ceramic light body tiles and sanitaryware, i.e. very fine graining, high plasticity (caused by the presence of kaolinite-D), and high bending strength after drying, they have been consumed by the ceramics in increasing quantities, up to 20,000 t in 2000 and 25,000 t in 2001.

From among coloured stoneware clays, two principal varieties are currently utilised by ceramic tiles industry, i.e. Triassic clays and Mio-pliocene Poznań clays. They are used primarily for the production of ceramic tiles (ca. 120,000 t in 2000), but also for stoneware, clinker goods and roofing tiles manufacturing. Triassic clays are extracted from Chelsty deposit by Opoczno S.A. (up to 80,000 tpy for ceramic tiles, roofing tiles, and stoneware products), from Baranów — by the Marywil Stoneware Plant (20,000—30,000 tpy for ceramic tiles, stoneware and clinker products), and from Patoka — by CRH Klinkier Patoka (ca. 30,000 tpy for clinker products, ceramic tiles). Tertiary Poznań clays are mined at Zebrzydowa deposit by Ekoceramika (over 20,000 tpy, sales for tiles producers). Other deposits of Poznań clays are used for clinker products manufacture, e.g. Słowiany — mined by Clinker Plant of Odrzychów, Gozdnica — extracted by CRH Klinkier Gozdnica, or for structural ceramics production. Stoneware clays accompanying light firing and refractory clays in lignite deposits (Bełchatów, Turów) have been also occasionally utilised.

3.3. Feldspar raw materials

Domestic reserves of feldspar — another important raw material for ceramic applications — are limited. Feldspar-quartz flours and grits of medium quality (6.0—8.5% $\text{Na}_2\text{O} + \text{K}_2\text{O}$,

0.5—0.8% Fe_2O_3 , 0.02—0.07% TiO_2) are produced by the Strzeblowskie Mineral Mines on the basis of its own deposits of Pagórki Wschodnie and Pagórki Zachodnie. Total sales of feldspar-quartz raw materials from Strzeblowskie Mineral Mines amounted to 88,400 t in 2000, possibly reaching 100,000 in 2001. Increasing share of grits is observed (75% in 2001), at the cost of more expensive flours.

Another producer, the Wrocławskie Mineral Mines, offer quartz-feldspar powder (0—1 and 0—2 mm fraction) generated in course of granite aggregates washing at the Graniczna mine. Total sales of these raw materials amounted to 66,000 t in 2000 and is assumed to be over 80,000 t in 2001. They are characterised by high Fe_2O_3 content (2—3%) and therefore are suitable only for the production of tiles of red body. Variable amounts of feldspar grits were also obtained from the Karpniki deposit by the Jopex Production Plant, however in 1999 the production was halted due to competition from other, even occasional, suppliers. In 2000 another producer of feldspar entered the market — the Jeleniogórskie Mineral Mines, but the products have been destined to the glass-making industry.

Due to the deficit in domestic feldspar raw materials for the ceramic sector, they are imported in increasing quantities, basically from the Czech Republic (e.g. Z65K20 grade from Calofrig, some grades from KMK Granit), Norway (Norfloat, Norflux, also nepheline syenite from North Cape Minerals), Finland (e.g. FFF, Alavus grades from SP Minerals), and France (Denain Anzin Mineraux). In 1999, there were 57,400 t of feldspar and 21,700 t of nepheline syenite purchased (also for the glass-making industry), while in 2000 — 82,000 t and 32,800 t respectively.

3.4. Silica raw materials

Silica raw materials are supplied to Polish ceramics by domestic producers. Tiles sector bases on quartz sand delivered by local producers. For example, ceramic tiles producers from Opoczno-Końskie region are primarily supplied by Grudzeń Las Quartz Sand Pit and Biała Góra Mineral Mines (total of ca. 80,000 tpy). Quartz flour for glazes is delivered mostly by Strzeblowskie Mineral Mines (a few thousand tpy), which produce it on the basis of Osiecznica glass sand.

4. Outlook

The production capacities of domestic ceramic tiles producers will climb to 95 million m^2py in 2003, comparing to 50 million m^2py in 2000 (Fig. 3). On the other hand, the total demand probably is not expected to exceed 100 million m^2py in 2003, which means a very small increase from current 80—85 million m^2py , caused by the slowdown in the domestic economy and crisis in the construction industry. The share of imported ceramic tiles, currently ca. 40%, can be reduced to 25%. Exports, on the contrary, which currently constitute only 3—4% of sales, will probably not exceed 10% in the coming years. Considering these facts, it is unreal to utilise all the production capacities in 2003, and the level of domestic production can be estimated at maximum 75 million m^2py . Increasing number of market players, coupled with growing domestic production and strong competition from foreign suppliers resulted in decreasing unit

value of tiles on Polish market, reducing also profitability of this sector. To utilise the potential of the domestic tiles plants in the future, the efficient distribution channels must be developed and the volume of exports should be increased.

The development of Polish ceramic tiles industry will result in increased demand for raw materials. Currently, it is met mostly from domestic sources (Table 2), with the exception of white burning clays (90% comes from imports). If the production of ceramic tiles in Poland achieves 75 million m²py in 2003, the demand for kaolin and feldspar raw materials will grow threefold, for stoneware clays — by 150%, while for white firing clays and silica sand — by ca. 60% (Table 2). The demand for stoneware clays and silica sand will be still satisfied from domestic sources, while in case of demand for feldspar raw materials, kaolin and white burning clays — the share of foreign suppliers will probably be significant. For example, imports of feldspar raw materials for ceramic tiles production can achieve 200,000 tpy or more, while combined imports of kaolin and white firing clays will probably exceed 200,000 tpy.

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PERSPEKTYWY POLSKIEGO PRZEMYSŁU PŁYTEK CERAMICZNYCH**Słowa kluczowe**

Płytki ceramiczne, gres porcelanato, kaolin, ily ceramiczne, surowce skaleniowe

Streszczenie

W artykule przeprowadzono analizę zjawisk zachodzących w krajowym przemyśle płytek ceramicznych w ostatnim dziesięcioleciu. Należał on do sektorów gospodarki narodowej o najwyższej dynamice rozwoju, zarówno produkcji (od 1990 r. ponad 4-krotny wzrost do 51 mln m² w 2000 r.), jak i zużycia (wzrost do 85 mln m²). Równocześnie na wielką skalę realizowano inwestycje związane z modernizacją i rozbudową zdolności produkcyjnych. W ich wyniku potencjał zakładów płytek ceramicznych (z wyłączeniem klinkierowych i okładzinowych) zwiększył się z około 50 mln m² w 2000 r. do ponad 80 mln m² w 2001 r., a w 2003 r. osiągnie przypuszczalnie 95 mln m². Pociągnęło to za sobą wybitny rozwój zapotrzebowania na surowce do produkcji płytek, zwłaszcza deficytowe ily białe wypalające się i surowce skaleniowe. Podjęto również próbę oceny poziomu przyszłego zużycia surowców, zarówno krajowych jak i importowanych, po zakończeniu większości inwestycji, tj. w 2003 r.