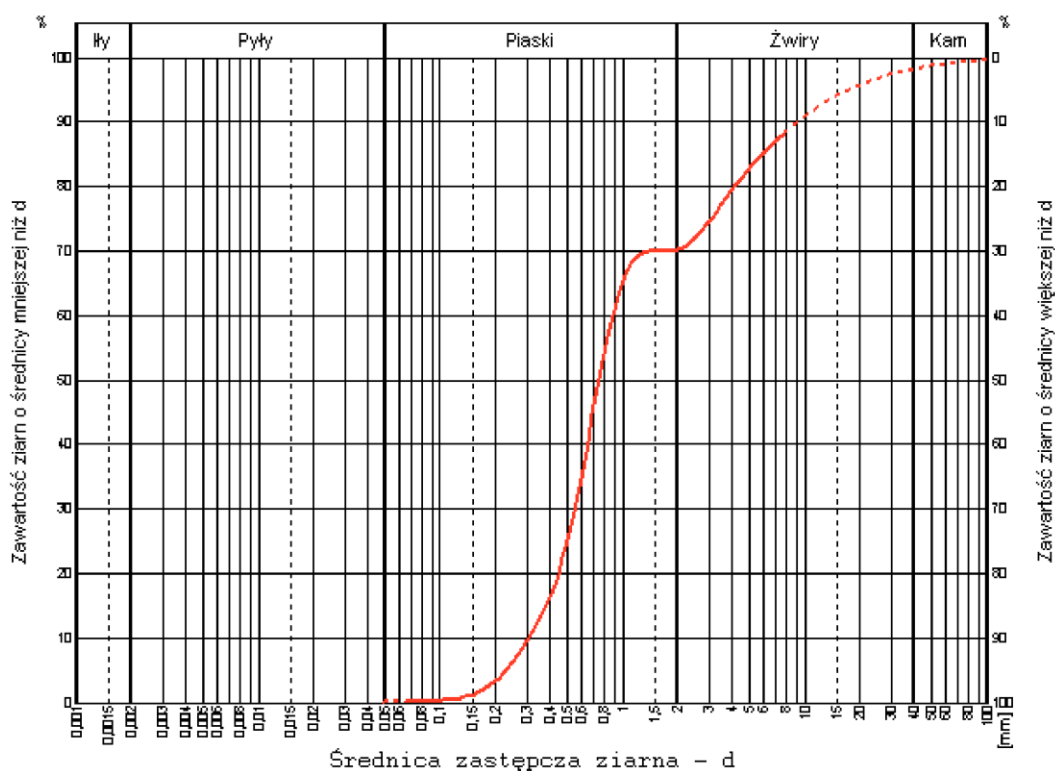


Location: **kwartał ulic Al. Św. Jana Pawła II, Czerwona Droga, Aleja Solidarności,  
Wał Generała Władysława Sikorskiego in Toruń**

Building: **construction of the European Film Center CAMERIMAGE in Toruń**

Hole no.: **o1**, Depth: **10.0m**

Sieve residue	Weight	Percentage contents	Total contents
8	33.1	11.34	11.34
4	26.8	9.18	20.51
2	27.4	9.38	29.90
1	14.1	4.83	34.73
0.5	117.1	40.10	74.83
0.25	55	18.84	93.66
0.1	17.6	6.03	99.69
0.063	0.5	0.17	99.86
Residue	0.4	0.14	100



	Clays
	Dust
	Sand
	Gravel
	Rock
	Contents of grain of diameter lower than d
	Contents of grain of diameter higher than d
	Equivalent grain diameter - d

Equivalent diameter d mm:

d10 : 0.306660 [mm]

d20 : 0.443119 [mm]

d50 : 0.742958 [mm]

d60 : 0.880934 [mm]

U: 2.872672

Filtration coefficient k10:

Hazen k10: 75.232346 [m/d]

USBSC k10 : 0.00055373 [m/s]

***Sandy-gravel***  
***(Po)\****

***Sand with gravel***  
***(grSa)\*\****

\* PN-86/B02480

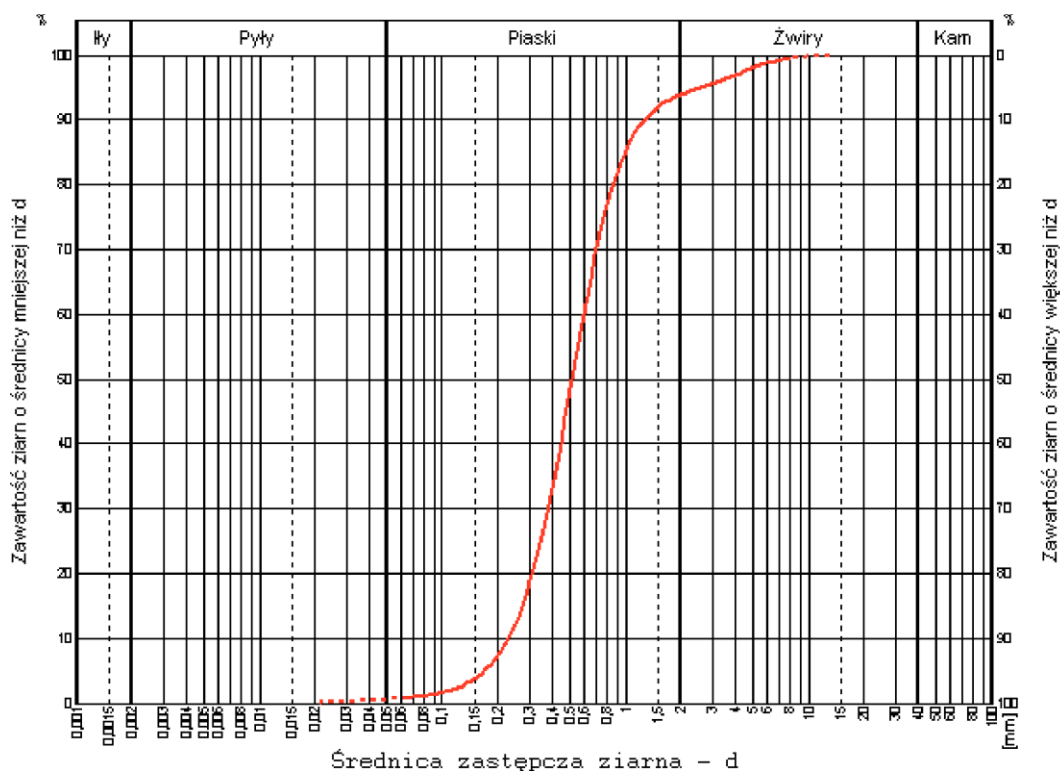
\*\* PN-EN ISO 14688 1

Location: **kwartał ulic Al. Św. Jana Pawła II, Czerwona Droga, Aleja Solidarności,  
Wał Generała Władysława Sikorskiego in Toruń**

Building: **construction of the European Film Center CAMERIMAGE in Toruń**

Hole no.: **o2**, Depth: **5.0m**

Sieve residue	Weight	Percentage contents	Total contents
8	1.4	0.52	0.52
4	6.7	2.51	3.03
2	8.3	3.11	6.14
1	23	8.61	14.76
0.5	98.2	36.78	51.54
0.25	96.9	36.29	87.83
0.1	28.1	10.52	98.35
0.063	2.4	0.90	99.25
Residue	2	0.75	100



	Clays
	Dust
	Sand
	Gravel
	Rock
	Contents of grain of diameter lower than d
	Contents of grain of diameter higher than d
	Equivalent grain diameter - d

Equivalent diameter  $d$  mm:

$d_{10}$  : 0.229810 [mm]

$d_{20}$  : 0.310334 [mm]

$d_{50}$  : 0.511075 [mm]

$d_{60}$  : 0.591031 [mm]

$U$ : 2.571829

Filtration coefficient  $k_{10}$ :

Hazen  $k_{10}$ : 42.250010 [m/d]

USBSC  $k_{10}$  : 0.00024407 [m/s]

**Coarse sand**  
**(Pr)\***

**Medium sand**  
**(MSa)\*\***

\* PN-86/B02480

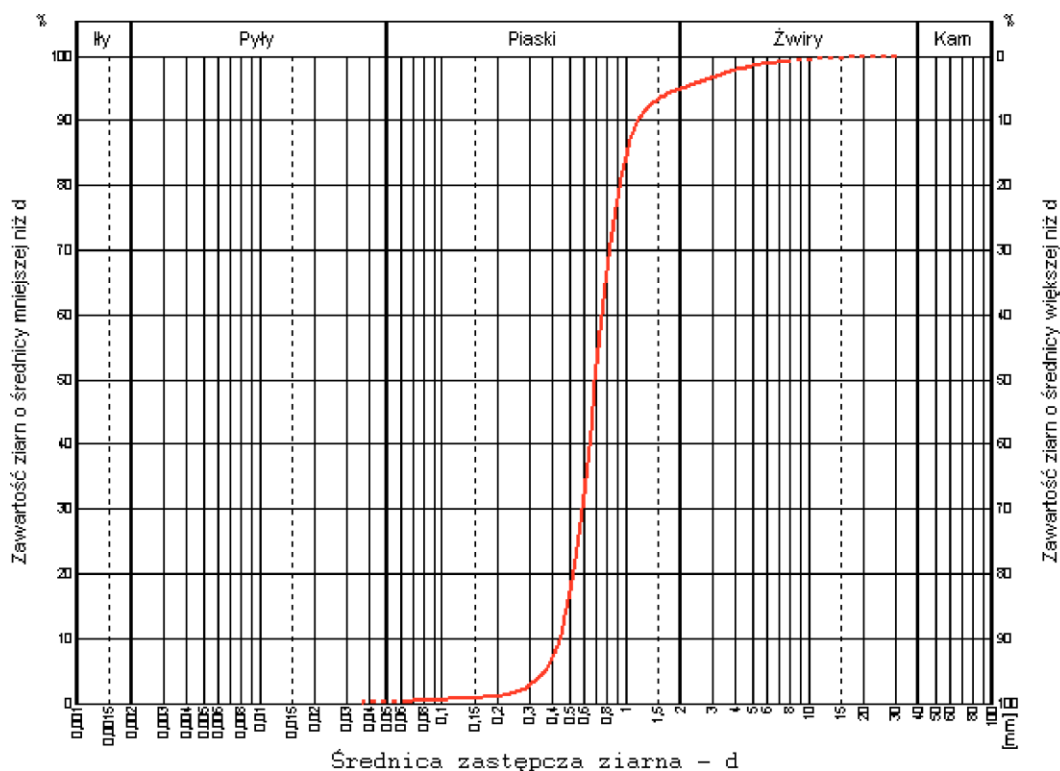
\*\* PN-EN ISO 14688 1

Location: **kwartał ulic Al. Św. Jana Pawła II, Czerwona Droga, Aleja Solidarności,  
Wał Generała Władysława Sikorskiego in Toruń**

Building: **construction of the European Film Center CAMERIMAGE in Toruń**

Hole no.: **o3**, Depth: **6.2 m**

Sieve residue	Weight	Percentage contents	Total contents
8	2.1	0.80	0.80
4	3.4	1.30	2.11
2	7.7	2.95	5.06
1	27.3	10.46	15.51
0.5	175.5	67.22	82.73
0.25	40.8	15.63	98.35
0.1	2.9	1.11	99.46
0.063	0.7	0.27	99.73
Residue	0.7	0.27	100



	Clays
	Dust
	Sand
	Gravel
	Rock
	Contents of grain of diameter lower than d
	Contents of grain of diameter higher than d
	Equivalent grain diameter - d

Equivalent diameter d mm:

d10 : 0.435522 [mm]

d20 : 0.518692 [mm]

d50 : 0.686081 [mm]

d60 : 0.745674 [mm]

U: 1.712140

Filtration coefficient k10:

Hazen k10: 227.615135 [m/d]

USBSC k10 : 0.00079542 [m/s]

**Coarse sand**  
**(Pr)\***

**Coarse sand**  
**(CSa)\*\***

\* PN-86/B02480

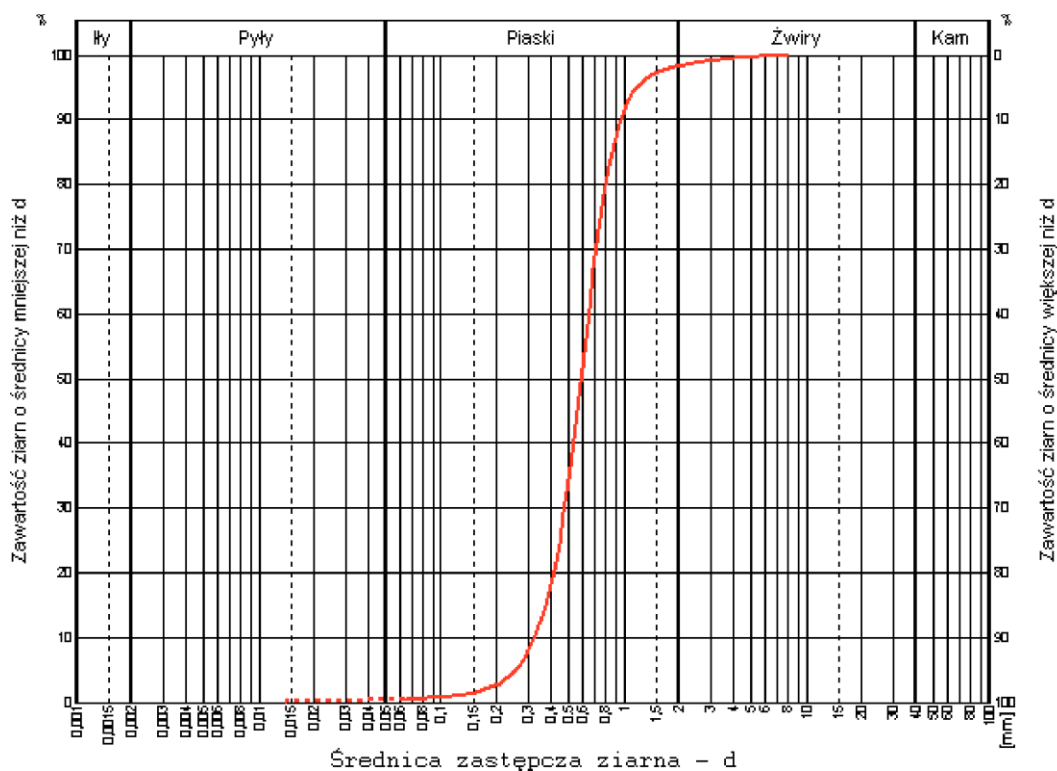
\*\* PN-EN ISO 14688 1

Location: **kwartał ulic Al. Św. Jana Pawła II, Czerwona Droga, Aleja Solidarności,  
Wał Generała Władysława Sikorskiego in Toruń**

Building: **construction of the European Film Center CAMERIMAGE in Toruń**

Hole no. **o5**, Depth: **5.0m**

Sieve residue	Weight	Percentage contents	Total contents
8	0	0	0
4	1.3	0.52	0.52
2	3	1.20	1.72
1	17.2	6.88	8.60
0.5	142.2	56.90	65.51
0.25	74.3	29.73	95.24
0.1	10.1	4.04	99.28
0.063	0.7	0.28	99.56
Residue	1.1	0.44	100



	Clays
	Dust
	Sand
	Gravel
	Rock
	Contents of grain of diameter lower than d
	Contents of grain of diameter higher than d
	Equivalent grain diameter - d

Equivalent diameter d mm:

d10 : 0.324619 [mm]

d20 : 0.411197 [mm]

d50 : 0.582701 [mm]

d60 : 0.639406 [mm]

U: 1.969709

Filtration coefficient k10:

Hazen k10: 126.453317 [m/d]

USBSC k10 : 0.00046625 [m/s]

**Coarse sand**  
**(Pr)\***

**Medium sand**  
**(MSa)\*\***

\* PN-86/B02480

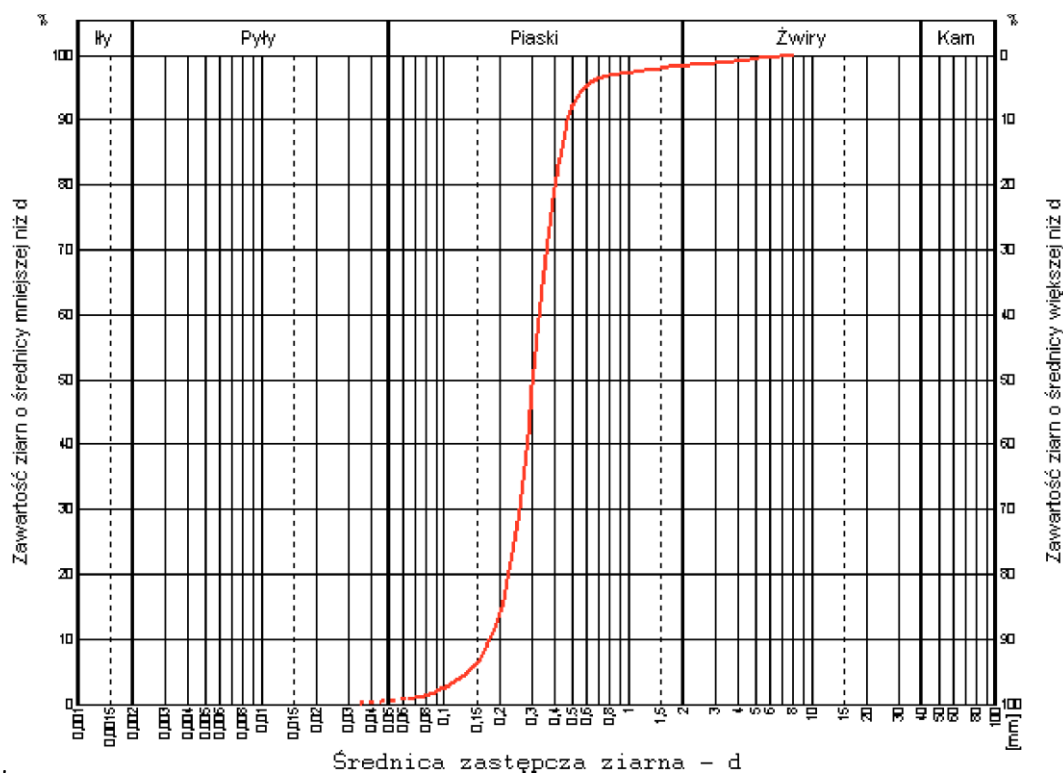
\*\* PN-EN ISO 14688 1

Location: **kwartał ulic Al. Św. Jana Pawła II, Czerwona Droga, Aleja Solidarności,  
Wał Generała Władysława Sikorskiego in Toruń**

Building: **construction of the European Film Center CAMERIMAGE in Toruń**

Hole no.: **o7**, Depth: **9.0 m**

Sieve residue	Weight	Percentage contents	Total contents
8	0	0	0
4	2.2	0.93	0.93
2	1.7	0.72	1.65
1	2.6	1.10	2.76
0.5	12.1	5.13	7.89
0.25	150.9	63.97	71.85
0.1	60.4	25.60	97.46
0.063	4.3	1.82	99.28
Residue	1.7	0.72	100



	Clays
	Dust
	Sand
	Gravel
	Rock
	Contents of grain of diameter lower than d
	Contents of grain of diameter higher than d
	Equivalent grain diameter - d

Equivalent diameter d mm:

d10 : 0.177665 [mm]

d20 : 0.224290 [mm]

d50 : 0.304469 [mm]

d60 : 0.329836 [mm]

U: 1.856504

**Medium sand**  
**(Ps)\***

**Medium sand**  
**(MSa)\*\***

Filtration coefficient k10:

Hazen k10: 37.877932 [m/d]

USBSC k10 : 0.00011566 [m/s]

\* PN-86/B02480

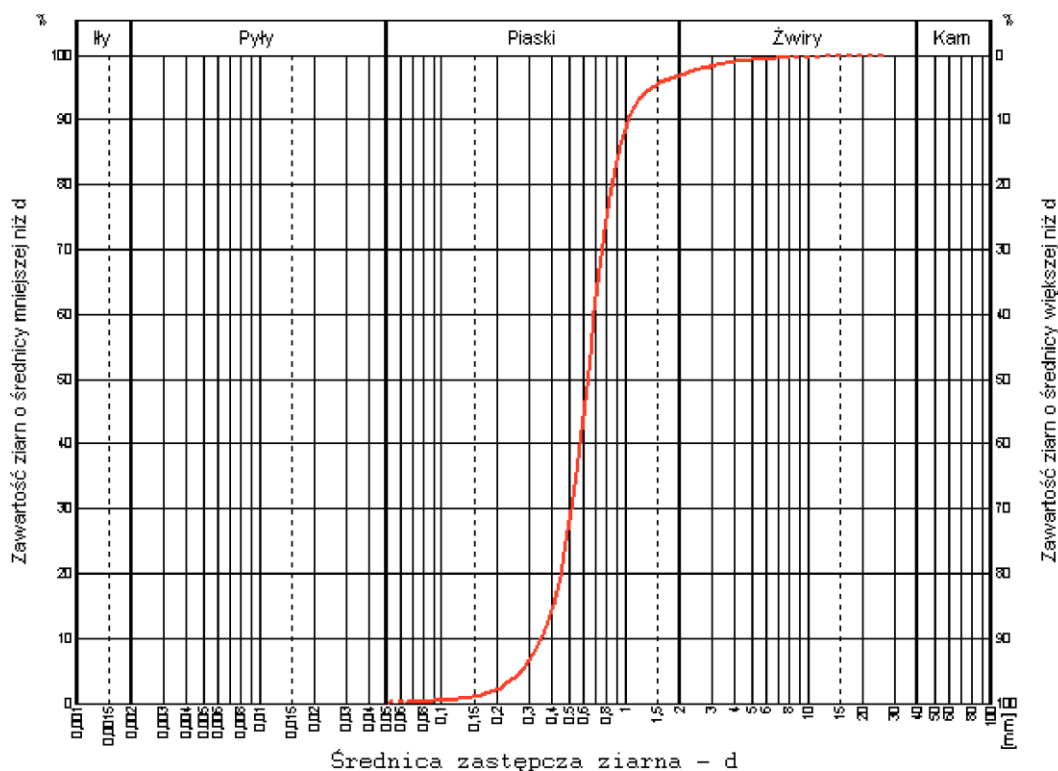
\*\* PN-EN ISO 14688 1

Location: **kwartał ulic Al. Św. Jana Pawła II, Czerwona Droga, Aleja Solidarności,  
Wał Generała Władysława Sikorskiego in Toruń**

Building: **construction of the European Film Center CAMERIMAGE in Toruń**

Hole no.: **o8**, Depth: **8.0 m**

Sieve residue	Weight	Percentage contents	Total contents
8	1.2	0.43	0.43
4	1.7	0.60	1.03
2	5.8	2.06	3.09
1	23.6	8.38	11.46
0.5	170.4	60.47	71.93
0.25	68.1	24.17	96.10
0.1	10	3.55	99.65
0.063	0.6	0.21	99.86
Residue	0.4	0.14	100



	Clays
	Dust
	Sand
	Gravel
	Rock
	Contents of grain of diameter lower than d
	Contents of grain of diameter higher than d
	Equivalent grain diameter - d

Equivalent diameter d mm:

d10 : 0.351026 [mm]

d20 : 0.445319 [mm]

d50 : 0.622723 [mm]

d60 : 0.681714 [mm]

U: 1.942061

Filtration coefficient k10:

Hazen k10: 147.863036 [m/d]

USBSC k10 : 0.00056007 [m/s]

**Coarse sand**  
**(Pr)\***

**Coarse sand**  
**(CSa)\*\***

\* PN-86/B02480

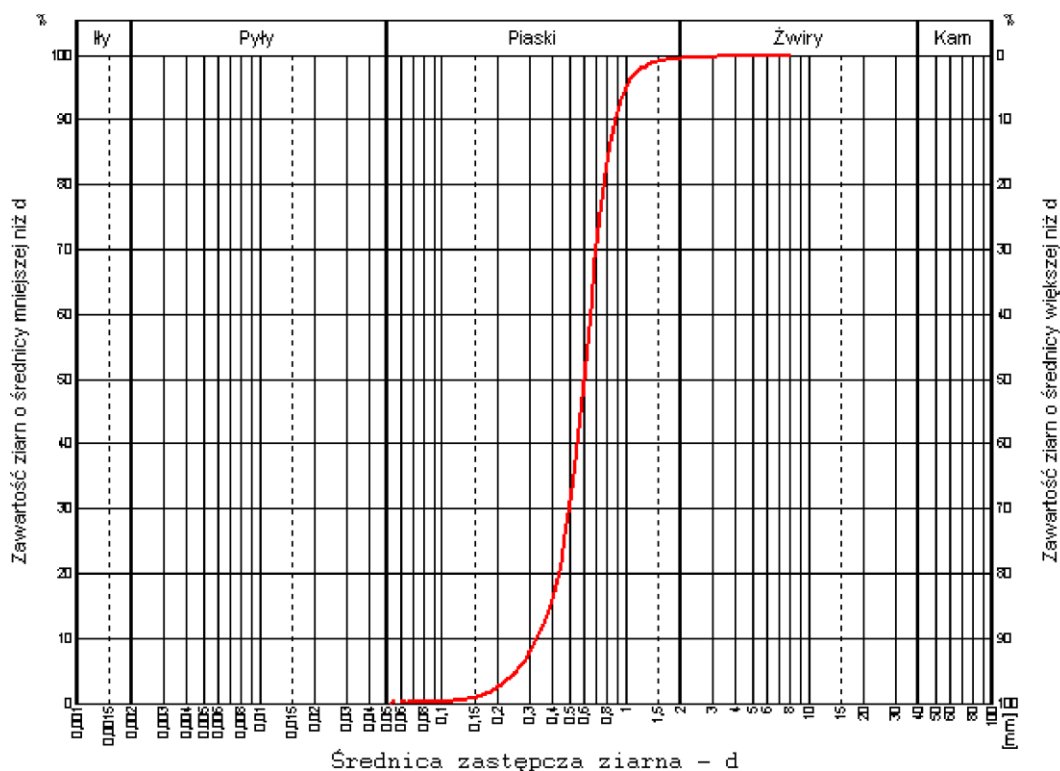
\*\* PN-EN ISO 14688 1

Location: **kwartał ulic Al. Św. Jana Pawła II, Czerwona Droga, Aleja Solidarności,  
Wał Generała Władysława Sikorskiego in Toruń**

Building: **construction of the European Film Center CAMERIMAGE in Toruń**

Hole no.: **o9**, Depth: **8.0 m**

Sieve residue	Weight	Percentage contents	Total contents
8	0	0	0
4	0.5	0.19	0.19
2	0.9	0.34	0.53
1	11.9	4.49	5.01
0.5	169.4	63.85	68.87
0.25	69.8	26.31	95.18
0.1	12.2	4.60	99.77
0.063	0.3	0.11	99.89
Residue	0.3	0.11	100



	Clays
	Dust
	Sand
	Gravel
	Rock
	Contents of grain of diameter lower than d
	Contents of grain of diameter higher than d
	Equivalent grain diameter - d

Equivalent diameter d mm:

d<sub>10</sub> : 0.331253 [mm]

d<sub>20</sub> : 0.429431 [mm]

d<sub>50</sub> : 0.591426 [mm]

d<sub>60</sub> : 0.639673 [mm]

U: 1.931071

Filtration coefficient k<sub>10</sub>:

Hazen k<sub>10</sub>: 131.674389 [m/d]

USBSC k<sub>10</sub> : 0.00051518 [m/s]

**Coarse sand**  
**(Pr)\***

**Medium sand**  
**(MSa)\*\***

\* PN-86/B02480

\*\* PN-EN ISO 14688 1