

FILTER AND WATER WELL SILICA SANDS & GRAVELS

May, 05 Page 1 of 4

PRODUCT

TARGET® Filter Silica Sands and Filter Gravels are high-silica materials processed in our Morinville plant to provide materials meeting the requirements of individual water filtration systems. In addition to the standard grades listed below, sands and gravels can be manufactured for projects with other specifications.

USES AND ADVANTAGES

TARGET Filter Sands and Gravels are suitable for many rapid and slow filtration systems. The raw materials are dried to sterilize the particles before proceeding with the sizing process. With the wide range of screen sizes available in the screening plants, the materials are sized to meet effective size and uniformity coefficient specifications. Rigorous quality control testing during production assures that the final products meet the requirements of the American Water Works Association standard B100 for filtering material.

PHYSICAL PROPERTIES

Colour	Tan
Grain Shape	Sub-rounded
Bulk Density	95 - 105 lb/ft ³ (1520-1680 kg/m ³) Varies with particle size. Values are determined for individual projects if required. Typical values (based on 2000 lb per ton) are:
	Filter Sand 1.65 tons per cubic meter
	Fine Filter Gravels 1.69 tons per cubic meter
	Coarse Filter Gravels 1.75 tons per cubic meter
Hardness, Moh	6.5 - 7
Specific Gravity	2.65
Moisture Content	<0.1% weight
Acid Solubility	<5% weight

PACKAGING

Filter sands are available in 22.7 kg (50 lb) plastic bags, or in 1680 kg (3700 lb) bulk bags. Morinville filter sands are also in 1.75 tonne bulk bags. Filter gravels are usually supplied in 1750 kg (3850 lb) bulk bags. Other bag sizes and bulk deliveries are available on request.

Product performance is affected by many factors, including storage, method and conditions of application and use. User testing is ESSENTIAL to determine suitability of product for intended method of application and use. Target's SOLE WARRANTY is that the product has been manufactured to specifications. No oral or written information or advice shall increase this warranty or create new warranties. Target's SOLE LIABILITY is to replace product proved defective. In no event shall Target be liable for any consequential, indirect or other damages whether arising from negligence or otherwise.

TARGET is a registered trade-mark of Tegrat Holdings Ltd. Target Products Ltd. is an authorized licensee.

**T
A
R
G
E
T

P
R
O
D
U
C
T
S

L
T
D**



FILTER AND WATER WELL SILICA SANDS & GRAVELS

May, 05 Page 2 of 4

TYPICAL SIEVE ANALYSES - Percent Passing

Sieve Size		SANDS, Cumulative % Passing		
ASTM	Metric	10-20	16-30	20-40
No. 10	2.00 mm	99 – 100		
No. 12	1.70 mm	90 – 100	100	
No. 16	1.18 mm	10 – 35	95 - 100	100
No. 20	0.85 mm	0 – 3	30 - 55	90 – 100
No. 30	0.60 mm	0 – 1	5 - 10	20 – 45
No. 40	0.42 mm		0 – 3	5 - 10
No. 50	0.30 mm		0 - 1	0 – 1
Effective Size, d_{10} , mm		0.85 – 1.25	0.53 – 0.63	0.45 – 0.55
Uniformity Coefficient, d_{60}/d_{10}		< 1.4	< 1.6	< 1.6

Sieve Size		GRAVELS, Cumulative % Passing						
ASTM	Metric	1 – 2"	½ - 1"	¼ - ½"	⅛ - ¼"	1/16 - ⅛"	4 – 10	8 – 16
2"	50 mm	100						
1 ½"	38 mm	88 – 92						
1"	25 mm	0 – 10	100					
¾"	19 mm	0 – 1	92 – 98	100				
½"	12.5 mm		4 – 10	98 – 100	100			
3/8"	9.5 mm		0 – 1	50 – 80	95 – 100			
No. 3	6.7 mm			2 – 8	50 – 75	100	100	
No. 4	4.75 mm						90 – 100	100
No. 6	3.36 mm				0 – 5	99 – 100	30 – 60	98 – 100
No. 8	2.36 mm						0 – 10	85 – 95
No. 10	2.00 mm					5 – 15	0 – 1	35 – 55
No. 14	1.41 mm					0 – 1		
No. 16	1.18 mm							0 – 1
Effective Size, d_{10} , mm		19 – 24	12 – 15	7 – 8	3.0 – 3.5	1.4 – 1.7	2.4 – 2.9	1.4 – 1.7
Uniformity Coefficient, d_{90}/d_{10}		< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.4	< 1.5

The sieve analyses given are typical values. Actual values could change from time to time to ensure that effective size and uniformity coefficient values remain within specification limits.

Product performance is affected by many factors, including storage, method and conditions of application and use. User testing is ESSENTIAL to determine suitability of product for intended method of application and use. Target's SOLE WARRANTY is that the product has been manufactured to specifications. No oral or written information or advice shall increase this warranty or create new warranties. Target's SOLE LIABILITY is to replace product proved defective. In no event shall Target be liable for any consequential, indirect or other damages whether arising from negligence or otherwise.

TARGET is a registered trade-mark of Tegrat Holdings Ltd. Target Products Ltd. is an authorized licensee.

T
A
R
G
E
T

P
R
O
D
U
C
T
S

L
T
D



FILTER AND WATER WELL SILICA SANDS & GRAVELS

May, 05 Page 3 of 4

TYPICAL SIEVE ANALYSES - Percent Retained

Sieve Size		SANDS, Individual % Retained		
ASTM	Metric	10-20	16-30	20-40
No. 10	2.00 mm	0 – 1	0	
No. 12	1.70 mm	0 – 10	0	
No. 16	1.18 mm	65 – 85	0 – 5	
No. 20	0.85 mm	10 – 30	40 – 65	0 – 10
No. 30	0.60 mm	0 – 3	20 – 45	50 – 70
No. 40	0.42 mm		5 – 10	15 – 35
No. 50	0.30 mm		0 - 2	5 - 10
Pan		0 – 1	0 – 1	0 – 1
Effective Size, d_{10} , mm		0.85 – 1.25	0.53 – 0.63	0.45 – 0.55
Uniformity Coefficient, d_{60}/d_{10}		< 1.4	< 1.6	< 1.6

Sieve Size		GRAVELS, Individual % Retained						
ASTM	Metric	1 – 2"	½ - 1"	¼ - ½"	⅛ - ¼"	1/16 - ⅛"	4 – 10	8 – 16
1 ½"	38 mm	8 – 12						
1"	25 mm	70 – 90	0					
¾"	19 mm	0 – 10	2 – 8					
½"	12.5 mm	0 – 1	80 – 10	0 – 2				
3/8"	9.5 mm		4 – 8	30 – 50				
No. 3	6.7 mm		0 – 1	30 – 50	0 – 5			
No. 4	4.75 mm						0 – 10	
No. 6	3.36 mm			2 – 8	85 – 95	0 – 3	40 – 60	0 – 2
No. 8	2.36 mm						30 – 55	5 – 15
No. 10	2.00 mm					85 – 95	0 – 10	35 – 55
No. 14	1.41 mm					5 – 10		
No. 16	1.18 mm							35 – 55
Pan					5 – 10	0 – 3	0 – 1	0 – 1
Effective Size, d_{10} , mm		19 – 24	12 – 15	7 – 8	3.0 – 3.5	1.4 – 1.7	2.4 – 2.9	1.4 – 1.7
Uniformity Coefficient, d_{90}/d_{10}		< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.4	< 1.5

The sieve analyses given in the tables are typical values. Actual values could change from time to time to ensure that effective size and uniformity coefficient values remain within specification.

Product performance is affected by many factors, including storage, method and conditions of application and use. User testing is ESSENTIAL to determine suitability of product for intended method of application and use. Target's SOLE WARRANTY is that the product has been manufactured to specifications. No oral or written information or advice shall increase this warranty or create new warranties. Target's SOLE LIABILITY is to replace product proved defective. In no event shall Target be liable for any consequential, indirect or other damages whether arising from negligence or otherwise.

TARGET is a registered trade-mark of Tegrat Holdings Ltd. Target Products Ltd. is an authorized licensee.



T
A
R
G
E
T

P
R
O
D
U
C
T
S

L
T
D

FILTER AND WATER WELL SILICA SANDS & GRAVELS

May, 05 Page 4 of 4

TYPICAL CHEMICAL ANALYSIS and PROPERTIES

Chemical Compound		Typical Value, % weight
Silica	SiO ₂	93.2 - 93.6
Alumina	Al ₂ O ₃	3.6 - 4.6
Iron Oxide	Fe ₂ O ₃	0.30 - 0.35
Calcium Oxide	CaO	0.25 - 0.65
Magnesium Oxide	MgO	0.08 - 0.15
Sodium Oxide	Na ₂ O	0.75 - 0.85
Titanium Oxide	TiO ₂	0.1 maximum
Loss on Ignition		0.3 maximum

Bulk density values vary with particle size. Values for individual products can be determined at the time of shipping if required.

T
A
R
G
E
T

P
R
O
D
U
C
T
S

L
T
D

Product performance is affected by many factors, including storage, method and conditions of application and use. User testing is ESSENTIAL to determine suitability of product for intended method of application and use. Target's SOLE WARRANTY is that the product has been manufactured to specifications. No oral or written information or advice shall increase this warranty or create new warranties. Target's SOLE LIABILITY is to replace product proved defective. In no event shall Target be liable for any consequential, indirect or other damages whether arising from negligence or otherwise.

TARGET is a registered trade-mark of Tegrat Holdings Ltd. Target Products Ltd. is an authorized licensee.

