

## CERPASS XTL®

**CERPASS XTL®**, the original seeded gel product, offers the most durable ceramic grains available today. The unique nano-structure of the grains, composed of extremely uniform, sub-micron crystals, are designed to fracture conchoidally when stressed. The combination of grain shape and microstructure allows for an aggressive cutting but long-lasting ceramic grain ideal for use in organic and vitrified bond-systems.

### Physical Properties: (Typical)

<b>Compound</b>	Alpha Aluminum Oxide	<b>Hardness (GPa)<sup>A</sup></b>	21.60
<b>Color</b>	White Translucent to Off-White/ Opaque	<b>Density (g/cm<sup>3</sup>)<sup>B</sup></b>	3.91
<b>Shape</b>	Strong and Blocky or Weak and Splintery	<b>Crystal Size (µm)<sup>C</sup></b>	0.17

A: by Vickers Diamond Indent Method B: by Helium Pycnometry  
C: by Uncorrected Intercept Method of SEM Photographs

### Chemical Properties: (Typical)

<b>Predominant Chemical Composition</b>		Al <sub>2</sub> O <sub>3</sub> ≥ 99.6 %	
<b>Trace Chemical Composition</b>			
<b>Constituent</b>	<b>Typical PPM</b>	<b>Constituent</b>	<b>Typical PPM</b>
TiO <sub>2</sub>	< 2,000	CaO	< 100
SiO <sub>2</sub>	< 700	Fe <sub>2</sub> O <sub>3</sub>	< 200
Na <sub>2</sub> O	< 100	MgO	< 150

### Product Availability: Macro-Sized Grains – Treated and Untreated

CERPASS® Code	Macro Grain Shape	Sizing	Grit Sizes
XTL-0560 <sup>(1)</sup>	Strong, Blocky	ANSI or FEPA-F	20, 22, 24, 30, 36, 40, 46, 54, 60, 70, 80, 90, 100, 120, 150, 180, 220 & 240 <sup>††</sup>
XTL-0565 <sup>(2)</sup>	Weak, Splintery	ANSI or FEPA-F	20, 22, 24, 30, 36, 40, 46, 54, 60, 70, 80, 90, 100, 120 & 150

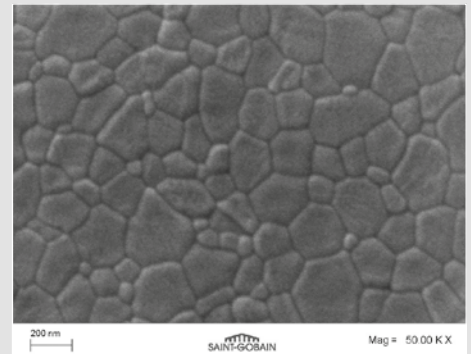
<sup>††</sup> ANSI only  
Note: <sup>(1)</sup> Code XTL-0560 is available in an Amino-Silane Treated version; use Code XTL-0576  
<sup>(2)</sup> Code XTL-0565 is available in an Amino-Silane Treated version; use Code XTL-0547



Macrostructure of 36-grit Strong Blocky-shaped CERPASS XTL®-0560 grains.



Macrostructure of 36-grit Weak Splintery-shaped CERPASS XTL®-0565 grains.



An actual scanning electron microscope (SEM) photograph, at 50,000 magnification, shows the unique and sub-micron crystal structure of CERPASS XTL® grains.

## Loose Pack Density (LPD) Limits: (Macro Sizes)

### LPD: Codes XTL-0560 and XTL-0576 - Strong, Blocky Shape

American National Standards Institute (ANSI), ANSI B74.4-1992 (R2002), and Fédération Européenne des Fabricants de Produits Abrasifs (FEPA-F), FEPA-standard 44-GB-1986 R 1993.

Grit Size	Lower Limit (g/cm³)	Upper Limit (g/cm³)	Grit Size	Lower Limit (g/cm³)	Upper Limit (g/cm³)	Grit Size	Lower Limit (g/cm³)	Upper Limit (g/cm³)
20	1.77	2.02	46	1.78	2.02	100	1.74	1.86
22	1.77	2.02	54	1.81	1.97	120	1.70	1.86
24	1.80	2.03	60	1.77	1.95	150	1.67	1.85
30	1.79	1.99	70	1.72	1.94	180	1.66	1.84
36	1.81	1.99	80	1.75	1.91	200	1.62	1.80
40	1.78	2.01	90	1.73	1.89	240**	1.62	1.80

\*\*ANSI only LPD measured on untreated grains

### LPD: Codes XTL-0565 and XTL-0547 - Weak, Splintery Shape

Grit Size	Lower Limit (g/cm³)	Upper Limit (g/cm³)	Grit Size	Lower Limit (g/cm³)	Upper Limit (g/cm³)	Grit Size	Lower Limit (g/cm³)	Upper Limit (g/cm³)
20	1.69	1.94	40	1.70	1.93	80	1.67	1.83
22	1.69	1.94	46	1.70	1.94	90	1.65	1.81
24	1.72	1.95	54	1.73	1.89	100	1.66	1.78
30	1.71	1.91	60	1.69	1.87	120	1.62	1.78
36	1.73	1.91	70	1.64	1.86	150	1.56	1.72

LPD measured on untreated grains

## Sizing Convention and Specifications:

### Sizing Fractions - Distribution Control

CERPASS® Codes XTL-0560, XTL-0576, XTL-0565 and XTL-0547 are processed to American National Standards Institute (ANSI), Table 2, ANSI B74.12-2001 and Fédération Européenne des Fabricants de Produits Abrasifs (FEPA-F), FEPA-standard 42-GB-1984 R 1993.

Control Screen Coarse Grain	Oversize	First Nominal	Second Nominal	Control Screen Fines Grain	Control Screen Coarse Grain	Oversize	First Nominal	Second Nominal	Control Screen Fines Grain		
Grit Size	Test Sieve 1	Test Sieve 2	Test Sieve 3	Test Sieve 3 & 4	Through Test Sieves 5	Grit Size	Test Sieve 1	Test Sieve 2	Test Sieve 3	Test Sieve 3 & 4	Through Test Sieves 5
20	+12/0	+16/(0-20)	+18/45+	(+18+20)/70+	-25/(0-3)	70	+45/0	+60/(0-25)	+70/40+	(+70+80)/65+	-100/(0-3)
22	+14/0	+18/(0-20)	+20/45+	+25/70+	-30/(0-3)	80	+50/0	+70/(0-25)	+80/40+	(+80+100)/65+	-120/(0-3)
24	+16/0	+20/(0-25)	+25/45+	(+25+30)/65+	-35/(0-3)	90	+60/0	+80/(0-20)	+100/40+	(+100+120)/65+	-140/(0-3)
30	+18/0	+25/(0-25)	+30/45+	(+30+35)/65+	-40/(0-3)	100	+70/0	+100/(0-20)	+120/40+	(+120+140)/65+	-200/(0-3)
36	+20/0	+30/(0-25)	+35/45+	(+35+40)/65+	-45/(0-3)	120	+80/0	+120/(0-20)	+140/40+	(+140+170)/65+	-230/(0-3)
40	+25/0	+35/(0-30)	+40/40+	(+40+45)/65+	-50/(0-3)	150	+100/0	+140/(0-15)	+200/40+	(+200+230)/65+	-325/(0-3)
46	+30/0	+40/(0-30)	+45/40+	(+45+50)/65+	-60/(0-3)	180	+120/0	+170/(0-15)	(+200+230)/40+	(+200+230+270)/65+	
54	+35/0	+45/(0-30)	+50/40+	(+50+60)/65+	-70/(0-3)	220	+140/0	+200/(0-15)	(+230+270)/40+	(+230+270+325)/60+	
60	+40/0	+50/(0-30)	+60/40+	(+60+70)/65+	-80/(0-3)	240**	+170/0	+200/(0-5)	(+230+270)/8+	(+230+270+325)/38+	

\*\*ANSI only

### For more information, please contact:

#### Saint-Gobain Ceramic Materials Specialty Grains and Powders

1 New Bond Street  
M/S 525-203  
PO Box 15137  
Worcester, MA 01615-0137  
USA  
Tel: +1 800 243 0028  
Fax: +1 508 795 2380

#### Saint-Gobain Ceramic Materials GmbH Specialty Grains and Powders

Branch office  
Concordiaplatz 3  
51143 Köln  
Germany  
Tel: +49 2203 956 468  
Fax: +49 2203 956 421

#### Saint-Gobain K.K. CM Division

Kitahama 1-Chome Heiwa Bldg. 7F  
1-1-14, Kitahama, Chuo-ku, Osaka, 541-0041  
Japan  
Tel: +81 6 4707 1700 (main)  
Fax: -81 6 4707 1701

#### Saint-Gobain Ceramic Materials Specialty Grains and Powders

7th Floor, Office Tower  
No. 222 East Yan'an Road  
Bund Center  
Shanghai 200002  
China  
Tel: +86 21 6361 7731

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