

Coated abrasives made with **NorZon™NV 1620 and 1622** demonstrate groundbreaking cutting abilities, bringing higher efficiency and lower force development to your applications. The grain, a 40 percent alumina-zirconia formulation, provides strength and resistance to dulling. Our unique electro-fusion process combines zircon sand, alumina and stabilizers at close to 1900°C or 3452°F. This recipe creates abrasive grains with controlled fracture properties engineered to give dramatic improvements in rapid stock removal operations. Depending on the grit size and applications, the effective cutting life of this sharp, hard, durable grain is two to six times longer than ordinary abrasive.

NorZon™NV 1620 and 1622 are especially suited for use in applications which rapid medium-to-heavy stock removal is required. These grains offer enhanced performance on a variety of materials, including stainless and high alloy steels. **NorZon™NV** will also out-perform traditional alumina-zirconia grains at lower applied pressure and power conditions.

In coated abrasives, **NorZon™NV 1620 and 1622** offer superior performance vs. the previous generation of 40 percent alumina-zirconia grains.

Applications

Code	Grain Shape	Treatment	Sizing Convention	Grit Sizes	Application
1620	Weak	Untreated	Modified FEPA P	16-220	Coated Abrasives
1622	Weak	Sodium Silicate	Modified FEPA P	16-220	Coated Abrasives

Chemical Properties (Typical)

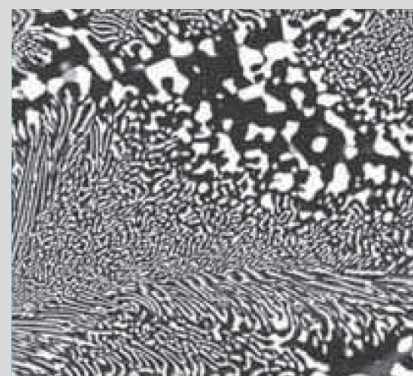
Aluminium Oxide (Al_2O_3)	53.0%-60.0%
Zirconium Oxide ($\text{ZrO}_2 + \text{HfO}_2$)	39.0%-42.5%
Calcium Oxide (CaO)	Max 0.13%
Iron Oxide (Fe_2O_3)	Max 0.20%
Magnesium Oxide (MgO)	Max 0.05%
Silica (SiO_2)	Max 0.60%
Sodium Oxide (Na_2O)	Max 0.05%
Titanium Oxide (TiO_2)	Max 2.00%
Yttria (Y_2O_3)	Max 0.80%

Physical Characteristics

Crystal Size	10-15 microns
True Density	4.68 gms/cc
Vickers Hardness for 50 load	19 GPA
Melting Point	1890°C
LPD Range	1.90-2.30 gms/cc



Macrostructure of NorZon™ NV grains



Microstructure of NorZon™ NV grains

Loose Packed Density- ANSI B 74.4.1992 Test Unit A

Size	1620/1622 CA (Max LPD)
20	2.22
24	2.16
30	2.16
36	2.14
40	2.06
50	1.97
60	1.95
80	1.97
100	1.92
120	1.93
150	1.93
180	1.93
220	1.90

U.S. Standard Sieves/Limits-Modified ANSI Code 1620 and 1622

Size/ Sieve	Oversize 1	Coarse Grit 2	1 st Nominal 2+3	2 nd Nominal 2+3+4	Fines 2+3+4+5	Pan -5
P20/Limits	+12/0	+16/(0-7)	(+16+18)/(34-50)	(+16+18+20)/(80-92)	(+16+18+20+25)/96+	-25/(0-4)
P24/Limits	+14/0	+18/(0-1)	(+18+20)/(10-18)	(+18+20+25)/(52-70)	(+18+20+25+30)/92+	-30/(0-8)
P30/Limits	+16/0	+20/(0-1)	(+20+25)/(10-18)	(+20+25+30)/(52-70)	(+20+25+30+35)/92+	-35/(0-8)
36T/Limits	+18/0	+25/(0-5)	(+25+30)/(14-28)	(+25+30+35)/(58-76)	(+25+30+35+40)/90+	-40/(0-10)
40T/Limits	+25/0	+35/(4-15)	(+35+40)/(48-73)	(+35+40+45)/(85-97)	(+35+40+45+50)/95+	-50/(0-5)
50T/Limits	+30/0	+40/(3-10)	(+40+45)/(15-35)	(+45+50+60)/(56-74)	(+45+50+60+70)/92+	-60/(0-6)
60T/Limits	+35/0	+45/(0-7)	(+45+50)/(15-35)	(+45+50+60)/(56-74)	(+45+50+60+70)/92+	-70/(0-8)
80T/Limits	+45/0	+60/(0-7)	(+60+70)/(15-35)	(+60+70+80)/(56-74)	(+60+70+80+100)/92+	-100/(0-8)
P100/Limits	+50/0	+70/(0-1)	(+70+80)/(10-18)	(+70+80+100)/(52-70)	(+70+80+100+120)/92+	-120/(0-8)
P120/Limits	+70/0	+100/(0-7)	(+100+120)/(34-50)	(+100+120+140)/(80-92)	(+100+120+140+170)/96+	-170/(0-4)
P150/Limits	+80/0	+120/(0-3)	(+120+140)/(20-32)	(+120+140+170)/(66-84)	(+120+140+170+200)/96+	-200/(0-4)
P180/Limits	+100/0	+140/(0-2)	(+140+170)/(10-20)	(+140+170+200)/(50-74)	(+140+170+200+230)/90+	-230/(0-10)
P220/Limits	+120/0	+170/(0-2)	(+170+200)/(10-20)	(+170+200+230)/(50-74)	(+170+200+230+270)/90+	-270/(0-10)

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
Gaocheng Town, Dengfeng
Zhengzhou, China
Tel: +86 400 888 0198

WARNING: The information contained in this document is believed to be accurate and reliable without guarantee or warranty on the part of Saint-Gobain Ceramics and Plastics Inc. Further, nothing present herein should be interpreted as an authorization or inducement to practice any patented invention without an appropriate license.