AIGI High Quality Packings

AIGI ENVIRONMENTAL INCORPORATED





50,000m² Manufacturing Plant and Logistics Center



AIGI ENVIRONMENTAL INCORPORATED

A Subsidiary of AIGI Group

81 Suyuan Avenue, Jiangning District, Nanjing 211100, PR China www.aigienvironmental.com



AIGI ENVIRONMENTAL INC. inspected this product under experimental conditions. Users shall judge independently whether to use this product, and shall ensure correct storage, installation and application of this product. As such, our company assumes no responsibility with regard to any situation arising from inappropriate storage, installation and application. All products of our company were strictly examined under the relevant national or business standards. Users shall complete checking this product within 30 working days upon receipt of the same. If users discover any problem related to the quality of this product, they shall raise their concerns within the above-mentioned period. If users fail to raise their concerns upon expiration of the above-mentioned period, this shall be treated as full acceptance of the product. Our company guarantees the provision of products of premium quality. Should any dispute arise with regard to the quality of the products, the verification of a third-party authority shall then be required. If any defect in quality is spotted out during inspection upon delivery, our company undertakes to provide a new product of equivalent value. Our company reserves the right to change the manufacturing processes, the materials and sources of the materials without further notification. In addition, our company assumes no responsibility or liability for any unintentional typographical error or omission during printing, or any non-timely update of information. Thank you for your consideration.

J100-2017P3V1.0E



CONTENTS

Company Introduction O3
Instruction for Disc springs04
Live Loading Disc Springs07
Live Loading Principle 07
17-7 PH Stainless Steel 08
H-13 Tool Steel09
6150 Washers 12
1075 Washers 12
Washers Dimensional Tolerances 21
Finishes24
Washer Characteristic Cur ves 25
Fatigue Values 26
Washer Stacking Design Information 27

AIGI 20 (Extremely High Temperature Packing)

Product Description

AIGI 20 Packing is braided from ceramic fiber and corrosion resistant thin metal wire. It could withstand high temperature and has excellent thermal insulation properties. It has outstanding ability to resist molten Aluminum, Chromium and other nonferrous metals. AIGI 20 Packing is an ideal extreme high temperature packing.



Property	Value
Color	White
Temperature	1260°C (2300°F)
PH Range	2 ~ 13
Pressure	5kg/cm² (70 PSI)

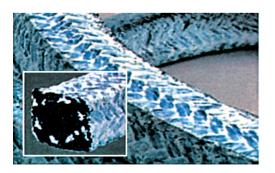
Application

Hot air pipe flange, oven door, combustion chamber, boiler, chimney door, tunnel furnace, container door, manhole cover, the flange of high temperature, max.working temperature up to 1260°C

AIGI 21 (Carbon Fiber Packing)

Product Description

AIGI 21 is a low modulus, continuous filament high-carbon fiber packing which is doubly impregnated PTFE lubricant. AIGI 21 has a unique inorganic blocking agent and corrosion inhibitor which prevents stem pitting and stops gas/liquid penetration. It is specially designed to be used in pumps and valves against water, oil, steam, solvent, acid and alkali media.



Property	Value
Color	Black
Temperature	240°C (465°F)
PH Range	1 ~ 14
Speed	15m/s (3000 Ft/min)
Pressure (pump)	30kg/cm² (450 PSI)
Pressure (valve)	200kg/cm² (3000 PSI)

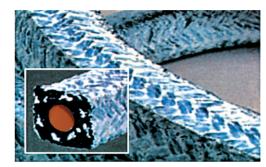
Application

Pumps and valves against steam, water, solvents, acids and alkalies

AIGI 21SC (AIGI 21 with Single Silicone Rubber Core)

Product Description

AlGI 21SC combines a resilient single silicone rubber core with the low modulus, continuous filament high carbon fiber of AlG21. The elastic rubber core gives the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. A unique inorganic blocking agent and corrosion inhibitor prevent stem pitting and stops gas/liquid penetration. It is specially designed to be used in pumps, valves, mixers and agitators against water, oil, steam, solvent, acid and alkali.



Value
Black
240°C (465°F)
2 ~ 12
15m/s (3000 Ft/min)
30kg/cm² (450 PSI)
200kg/cm² (3000 PSI)

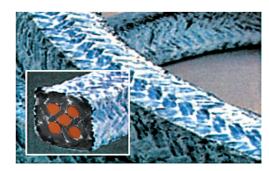
Application

Pumps, valves, mixers and agitators against steam, water, solvents, acids and alkalies

AIGI 21MSC (AIGI 21 with Multi-Silicone Rubber Cores)

Product Description

AIGI 21MSC combines resilient multi-silicone rubber cores with the heat resistant high carbon fiber of AIG21. The elastic rubber core gives the packing better memory, allowing it to withstand extreme radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. A unique inorganic blocking agent and corrosion inhibitor prevents stem pitting and stops gas/liquid penetration. It is specially designed to be used in pumps, valves, mixers and agitators on water, oil, steam, solvent, acid and alkali.



Property	Value
Color	Black
Temperature	240°C (465°F)
PH Range	2 ~ 12
Speed	15m/s (3000 Ft/min)
Pressure (pump)	30kg/cm² (450 PSI)
Pressure (valve)	200kg/cm² (3000 PSI)

Application

Pumps, valves, mixers and agitators against steam, water, solvents, acids and alkalies

AIGI 22 (High Temperature Pump/Valve Packing)

Product Description

AIGI 22 is made from a high strength, high purity carbon fiber with only minor quantities of braiding sizings added giving the finished packing great temperature and pressure resistance. It is designed for use in high temperature valves and pumps against steam, hot water, solvents, acids and alkalies.



Property	Value
Color	Black
Temperature (steam)	565°C (1050°F)
Temperature (Oxygen)	310°C (590°F)
PH Range	1 ~ 13
Speed	15m/s (3000 Ft/Min)
Pressure (pump)	30kg/cm ² (450 PSI)
Pressure (valve)	250kg/cm² (3625 PSI)

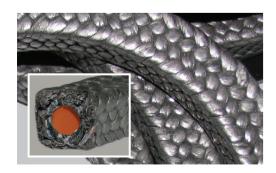
Application

Pumps and valves against steam, water, solvents, acids and alkalies

AIGI 22SC (AIGI 22 with Single Silicone Core)

Product Description

AIGI 22SC combines a resilient single silicone rubber core with the heat resistant high strength, high purity fiber of AIG22. The elastic rubber core gives the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. Easy-to-use 22SC packing controls leakage effectively while drasticall reducing shaft damage. It is specially designed to be used in high temperature pump and valve applications.



Property	Value
Color	Black
Temperature	240°C (465°F)
PH Range	2 ~ 12
Speed	15m/s (3000 Ft/min)
Pressure (pump)	30kg/cm² (450 PSI)
Pressure (valve)	250kg/cm² (3625 PSI)

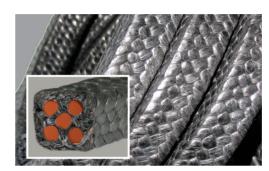
Application

Pumps and valves against steam, water, solvents, acids and alkalies

AIGI 22MSC (AIGI 22 with Multi-Silicone rubber Cores)

Product Description

AIGI 22MSC combines a resilient multi-silicone rubber core with the heat resistant, high purity carbon fiber of AIG22. The elastic rubber core gives the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. Easy-to-use 22MSC packing controls leakage effectively while it drastically reduces damage to shafts. It is specially designed to be used in high temperature pump and valve.



Property	Value
Color	Black
Temperature	240°C (465°F)
PH Range	2 ~ 12
Speed	15m/s (3000 Ft/min)
Pressure (pump)	30kg/cm² (450 PSI)
Pressure (valve)	250kg/cm² (3625 PSI)

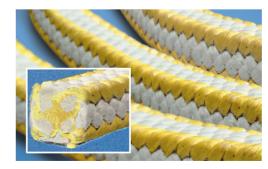
Application

Pumps and valves against steam, water, solvents, acids and alkalies

AIGI 23 (Special Abrasion Resistant Packing)

Product Description

AIGI 23 is a braided PTFE fiber packing with high strength Aramid fiber corners. Because of the Aramid fiber's high strength and PTFE's self-lubrication, AIGI 23 has excellent flexiblability and abrasion resistance. With the addition of a post braiding PTFE lubricant, AIGI 23 significantly reduces shaft wear normally associated with Aramid fiber packings. AIGI 23 is designed to be used in aggressive slurry and high abrasive content applications.



Property	Value
Color	Yellow/White
Temperature	240°C (465°F)
PH Range	4 ~ 12
Speed	10m/s (2000 Ft/min)
Pressure	25kg/cm² (360 PSI)

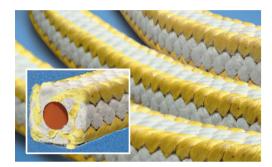
Application

Slurry and abrasive pump applications in mining, power, sewerage and pulp and paper

AIGI 23SC (AIGI 23 with Single Silicone Rubber Cores)

Product Description

AIGI 23SC adds a resilient single silicone rubber core to AIGI 23 packing. The elastic rubber core gives the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. AIGI 23SC has excellent flexiblability and abrasion resistance. With the addition of of a post braiding PTFE lubricant, AIGI 23SC significantly reduces the shaft wear normally associated with Aramid fiber packings.



Property Value Color Yellow/White Temperature 240°C (465°F) PH Range 4 ~ 11 Speed 10m/s (2000 Ft/min) Pressure 25kg/cm² (360 PSI)		
Temperature 240°C (465°F) PH Range 4 ~ 11 Speed 10m/s (2000 Ft/min)	Property	Value
PH Range 4 ~ 11 Speed 10m/s (2000 Ft/min)	Color	Yellow/White
Speed 10m/s (2000 Ft/min)	Temperature	240°C (465°F)
. , . , . , ,	PH Range	4 ~ 11
Pressure 25kg/cm² (360 PSI)	Speed	10m/s (2000 Ft/min)
	Pressure	25kg/cm² (360 PSI)

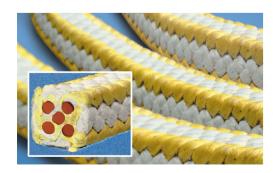
Application

Pumps, mixers and agitators in aggressive slurry applications in mining, power and sewage

AIGI 23MSC (AIGI 23 with Multi-Silicone Rubber Cores)

Product Description

AIGI 23MSC adds resilient multi-silicone rubber cores to AIGI 23. The elastic rubber corse give the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. AIGI 23MSC has excellent flexiblability and abrasion resistance. With the addition of a post braiding PTFE lubricant, AIGI 23MSC significantly reduces the shaft wear associated with Aramid packings.



Property	Value
Color	Yellow/White
Temperature	240°C (465°F)
PH Range	4 ~ 11
Speed	10m/s (2000 Ft/min)
Pressure	25kg/cm² (360 PSI)

Application

Pumps, mixers and agitators with extreme radial motion in slurry and abrasive applications

AIGI 24 (High Temperature Pump Packing)

Product Description

AIGI 24 is braided from a heat resistant high carbon content fiber and dipped in special lubricants which allow for faster pump start up and better sealability. Specially designed for high temperature and high speed pump applications, unlike traditional Carbon fiber packings AIGI 24 will not burn because of its extreme heat dissipation and low friction properties. It is specially designed for pumps, agitators, mixers, condensate pumps, boilerfeed and vacuum pumps. It is suitable for use in refiners, stock pumps and pulpers in the pulp and paper industry.



Property	Value
Color	Black
Temperature (steam)	565°C (1050°F)
Temperature (Oxygen)	310°C (590°F)
PH Range	1 ~ 13
Speed	15m/s (3000 Ft/min)
Pressure	250kg/cm² (3625 PSI)

Application

High speed and High Temperature Pumps in power, metals processing and pulp and paper

AIGI 25 (Special Aramid Packing)

Product Description

AIGI 25 is an interbraid packing using special wear-resisting Aramid fiber yarn. AIGI 25 has excellent strength, flexibility and abrasive resistance. It is designed to seal the most aggressive abrasive and slurry pump, mixer and agitator applications. The use of a flush is strongly suggested.



Property	Value
Color	Yellow
Temperature	240°C (465°F)
PH Range	4 ~ 11
Speed	10m/s (2000 Ft/min)
Pressure	25kg/cm² (360 PSI)

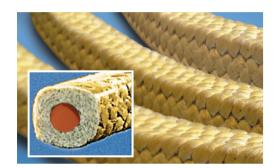
Application

Slurry and abrasive applications in mining, steel, sewage, pulp and paper

AIGI 25SC (AIGI 25 with Single Silicone Rubber Core)

Product Description

AIGI 25SC adds a resilient single silicone rubber core to AIGI 25 packing. The elastic rubber core gives the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. AIGI 25SC provides additional shaft stability in difficult abrasive and slurry applications for longer life.



Property	Value
Color	Yellow
Temperature	240°C (465°F)
PH Range	4 ~ 11
Speed	10m/s (2000 Ft/min)
Pressure	25kg/cm² (360 PSI)

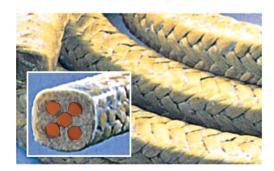
Application

Pumps, mixers and agitators in mining, steel, sewage, pulp and paper

AIGI 25MSC (AIGI 25 with Multi-Silicone Rubber Cores)

Product Description

AIGI 25MSC adds resilient multi-silicone rubber cores to AIGI 25 packing. The elastic rubber cores give the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. AIGI 25MSC is designed to provide shaft stability in the most extreme radial motion and vibration slurry and abrasive applications.



Property	Value
Color	Yellow
Temperature	240°C (465°F)
PH Range	4 ~ 11
Speed	10m/s (2000 Ft/min)
Pressure	25kg/cm² (360 PSI)

Application

Pumps, agitators and mixers in mining, steel, sewage, pulp and paper

AIGI 26 (General Service Pump Packing)

Product Description

AIGI 26 is braided from PTFE yarn and then coated with a graphite dispirsion to disipate heat, AIGI 26 is a dense braid which ensures excellent leakage control, less lubricant migration, less frictional heat build up and excellent heat disipation for longer life. As a low-friction packing, AIGI 26 is used widely in general service pump applications as well as the toughest chemical applications.



Property	Value
Color	Black
Temperature	240°C (465°F)
PH Range	0 ~ 14
Speed	10m/s (2000 Ft/min)
Pressure	40kg/cm² (580 PSI)

Application

Universal pump packing suitable for chemicals, water, acid, alkalies and light slurries

AIGI 26SC (AIGI 26 with Single Silicone Rubber Core)

Product Description

AIGI 26SC adds a resilient single silicone rubber core to AIGI 26 packing. The elastic rubber core gives the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. As a low-friction packing, AIGI 26SC is an excellent choice as a general service pump packing. It is especially effective in pumps, mixers and agitators where radial runout is a problem.



Property	Value
Color	Black
Temperature	240°C (465°F)
PH Range	2 ~ 12
Speed	10m/s (2000 Ft/min)
Pressure	40kg/cm² (580 PSI)

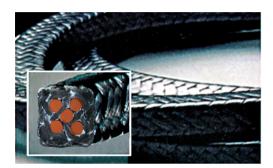
Application

General service pump, agitator and mixer packing where radial runout is an issue

AIGI 26MSC (AIGI 26 with Multi-Silicone Rubber Cores)

Product Description

AIGI 26MSC adds resilient multi-silicone rubber cores to AIGI 26 packing. The elastic rubber core gives the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. As a low-friction, dense packing, AIGI 26WSC is used in pumps, mixers and agitators to stablize extreme runout conditions.



Property	Value
Color	Black
Temperature	240°C (465°F)
PH Range	2 ~ 12
Speed	10m/s (2000 Ft/min)
Pressure	40kg/cm² (580 PSI)

Application

General service packing for pumps, mixers and agitators where extreme radial runout exists

AIGI 26W (General Service PTFE Valve Packing)

Product Description

AIGI 26W is 100% pure non-hardening PTFE fiber braid with an additional coating of pure PTFE dispersion for better sealability. AIGI 26W is a universal valve packing for chemical and low pressure steam applications. It is a highly effect, long term sealing solution for manually operated valves and its low friction properties make it particularly suitable for air operated control valves.



Property	Value
Color	White
Temperature	240°C (465°F)
PH Range	0 ~ 14
Speed	10m/s (2000 Ft/min)
Pressure	40kg/cm² (580 PSI)

Application

General service valve packing for steam, water and chemicals

AIGI 26WSC (AIGI 26W with Single Silicone Rubber Core)

Product Description

AIGI 26WSC adds a resilient single silicone rubber core to AIGI 26W. The elastic rubber core gives the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. AIGI 26WSC is used widely inpump applications requiring additional stability because of shaft runout.



Property	Value
Color	White
Temperature	240°C (465°F)
PH Range	2 ~ 12
Speed	10m/s (2000 Ft/min)
Pressure	40kg/cm² (580 PSI)

Application

General service pump, mixer and agitator packing designed for shaft stabilization

AIGI 26WMSC (AIGI 26WMSC with Multi-Silicone Rubber Cores)

Product Description

AIGI 26WSC adds resilient multi-silicone rubber cores to AIGI 26W. The elastic rubber cores give the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustment. AIGI 26WMSC is used widely where extreme shaft runout is a problem.



Property	Value
Color	White
Temperature	240°C (465°F)
PH Range	2 ~ 12
Speed	10m/s (2000 Ft/min)
Pressure	40kg/cm² (580 PSI)

Application

Pumps, mixers and agitators with extreme runout problems

AIGI 27/27W (General Service Pump Packing)

Product Description

AIGI 27/27W are lubricated Synthetic Fiber Packings for general service pump applications. AIGI 27 is lubricated with graphite for heat dissipation while 27W is lubricated with special lubricants to produce a clean, white non-staining packing. AIGI 27/27W are general service pump packings for use in mining, wastewater and sewage plants, municipal water plants, paper mills and marine applications as well as in mild acid and alkali applications and slurries.



Property	Value
Color	Black/ White
Temperature	150°C (300°F)
PH Range	4 ~ 12
Speed	12m/s (2500 Ft/min)
Pressure (pump)	40kg/cm² (580 PSI)
Pressure (valve)	80kg/cm² (1160 PSI)

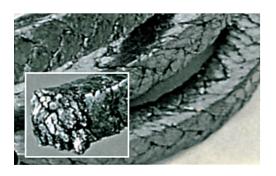
Application

General service pump applications sealing water, slurries and mild acids and alkalies

AIGI 28 (Universal Pump/Valve Packing)

Product Description

AIGI 28 is an interbraid packing made from carbon fiber reinforced flexible graphite yarn. In pumps AIGI 28 offers excellent leakage control because of its low friction, self-lubricating design and stuffing box conformability. In valves AIGI 28 offers excellent general service sealability and good chemical resistance.



Property	Value
Color	Black
Temperature	450°C (850°F)
PH Range	0 ~ 14
Speed	20m/s (4000 Ft/min)
Pressure (pump)	30kg/cm² (450 PSI)
Pressure (valve)	200kg/cm² (3000 PSI)

Application

General service pump and valve packing against water, steam and chemicals

AIGI 29 (High Temperature/High Pressure Valve Packing)

Product Description

AlGI 29 uses a nickel wire reinforced Flexible Graphite yarn embedded in a nickel wire knit jacket which is interbaided and then coated with special blocking agents for enhanced sealability. The extreme temperature resistance of the flexible graphite combined with the outstanding extrusion resistance of the nickel wire makes AlGI 29 an obvious choice for high temperature/high pressure steam valve applications. The chemical resistance of Flexible Graphite makes AlGI 29 also a good choice for valves chemical and petrochemical plants and refineries



Property	Value
Color	Black
Temperature	560°C (1050°F)
PH Range	0 ~ 14
Pressure	300kg/cm² (4350 PSI)

Application

High temperature/high pressure valves in power plants, refineries, chemical amd petrochemical plants

AIGI 95 (High Efficiency Pump/Valve Packing)

Product Description

AIGI 95 is an interbraid packing using a high quality Synthetic Fiber which is lubricated before and after braiding with PTFE dispersion and then finished with a unique break-in lubricant lubricant. Because of the lubrication through out the packing it offers extended packing life and dramatically reduces equipment damage.



Property	Value
Color	Brown
Temperature	260°C (500°F)
PH Range	0 ~ 13
Speed	8m/s (1600 Ft/min)
Pressure	35kg/cm² (510 PSI)

Application

High efficiency pump packing for general service use against water, mild chemicals and light slurries

AIGI 98 (High Temperature/High Speed Pump and Valve Packing)

Product Description

AIGI 98 is an interbraid Packing using high quality carbon fiber reinforced flexible graphite tape. The extreme temperature resistance, self-lubricated capability and high heat dissipation make AIGI 98 an excellent choice for high temperature and high speed equipment. The tremendous sealability and strength of the reinforced flexible graphite also make it an excellent choice for valves in chemical and petrochemical plants and refineries as well as power plants.



Property	Value
Color	Black
Temperature	650°C (1200°F)
PH Range	0 ~ 14
Speed	13m/s (2500 Ft/min)
Pressure	200kg/cm² (3000 PSI)

Application

Pumops and valves in power plants, chamical and petrochemical plants and refineries

AIGI 99 (Super High Temperature/High Pressure Valve Packing)

Product Description

AIGI 99 is a tight, densely interbraided graphite Packing where each flexible graphite yarn is reinforced with a nickel wire mesh that improves strength and blowout and extrusion resistance. The dense construction, blowout and extrusion restance and general stuffing box conformability of the flexible graphite make AIGI 99 the optimum packing for sealing high temperature and high pressure steam as well as a wide range of chemicals.



Property	Value
Color	Black
Temperature (Steam)	650°C (1200°F)
Temperature (Oxygen)	455°C (850°F)
PH Range	0 ~ 14
Pressure	300kg/cm² (4500 PSI)

Application

All types of valves in power plants, refineries, petrochemical and chemical plants

AIGI SSP (Special Slurry Packing)

Product Description

AIGI SSP Packing is braided using a mix of high carbon content carbon fibers and PTFE yarn and then finish lubricated with high quality graphite. The high temperature resistance ,strength, self-lubricating properties of high carbon fiber combined with the flexibility, chemical resistance and stuffing box conformability of PTFE fibers makes AIGI SSP the optimal choice for slurry applications in industries such as mining, pulp and paper, metals processing and power.



Property	Value
Color	Black
Temperature	260°C (500°F)
PH Range	O ~ 13
Speed	15m/s (3000 Ft/min)
Pressure	25kg/cm² (350 PSI)

Application

Virtually all pumps, mixers and agitators in most slurry applications

AIGI 260L (Tank Cover Packing)

Product Description

AIGI 260L is designed to handle the unique sealing requirements of tank covers, lids and hatches. AIGI 260L starts with a rubber core overwrapped with a high quality PTFE film. This core is then overbraided with the non-absorbent, chemically resistant polypropylene yarn. The combination of the two gives this packing its excellent compressibility and elasticity. The flexible core is then wrapped with a double layer of high quality PTFE film. Finally, AIGI 260L is overbraided with a tough, pure PTFE filament jacket that protects the PTFE film barrier from damage.



Property	Value
Color	White
Temperature	100°C (212°F)
PH Range	O ~ 14

Application

Tank covers, hatches and lids found in marine and rail based chemical transport equipment

AIGI High Quality Packings

AIGI ENVIRONMENTAL INCORPORATED

AIGI 1010 (Injectable Packing)

Product Description



Property	Value
Color	Black/White
Temperature	200°C (400°F)
PH Range (Black)	4 ~ 13, not recommend for oxidizing agents
PH Range (White)	1 ~ 13, not recommend for oxidizers, fluorine, chlorine trifluoride, related compounds and molten alkali metals
Speed (Black)	8m/s (1500 Ft/min)
Speed (White)	10m/s (2000 Ft/min)

Application

Stock pumps, white water pumps, river water pumps, condensate pumps, water treatment pumps

