

3M Science.
Applied to Life.™

3M™ Boron Carbide Blasting Nozzles

Performance at full blast

Blasting nozzles of 3M™ Boron Carbide and 3M™ Silicon Carbide have a proven track record over decades of use, due to their extreme wear resistance, high quality, uniform blasting performance and long service life.



3M™ Boron Carbide Blasting Nozzles

Introduction

3M Technical Ceramics is a leading manufacturer of advanced ceramic products and materials for industrial applications. For over six decades, 3M Technical Ceramics has manufactured boron carbide blasting nozzles for a wide variety of standard and specialized applications. Ongoing research and market analysis have enabled us to systematically expand our range of blasting nozzles and offer technologically sophisticated products of the highest quality.

Typical Applications for 3M™ Boron Carbide Blasting Nozzles

- Prepare surface for coating or bonding
- Remove production contaminants
- Deflashing and deburring of molded parts
- Finalize surfaces to matte or frosted finish
- Shot peening

Boron carbide is one of the hardest engineering materials available – only diamond and cubic boron nitride are harder – giving it exceptional abrasion resistance. Used correctly, 3M™ Boron Carbide Blasting Nozzles have exceptionally long service life, even in applications using extremely hard abrasives such as corundum and silicon carbide.

- Density as low as 2.50 g/cm²
- Minimal wear in demanding applications
- Low air consumption through minimal widening of the bore
- Consistent blasting performance
- Exceptionally long service life
- High performance with a variety of abrasive media

Durability that pays off

Due to its exceptionally high abrasion resistance, boron carbide boasts an unbeatable price/performance ratio. When costs per time unit of blasting are compared, 3M boron carbide blasting nozzles may offer a more cost-effective alternative to nozzles made of silicon carbide or hard metal.

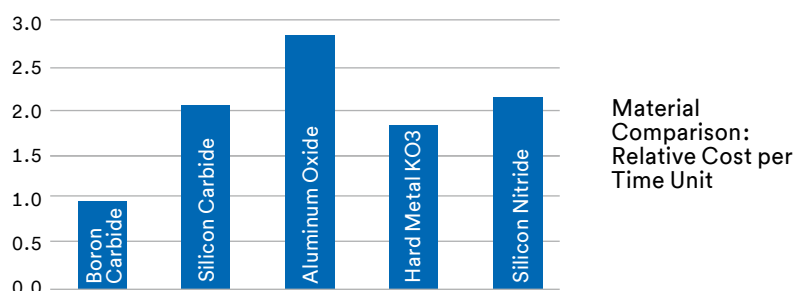


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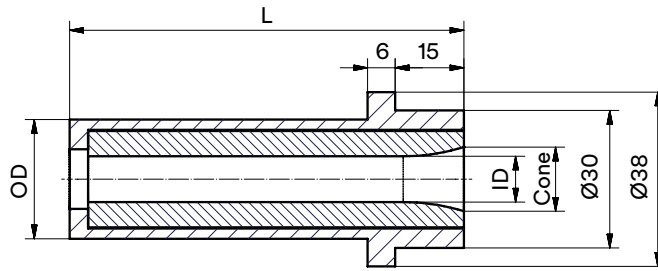
Product Key

The product designation consists of a combination of numerals and letters. This code provides the following information: **Product, dimensions, form, connection, insert material and jacket material.**

Order example: Nozzle 0095/0680 NKBS

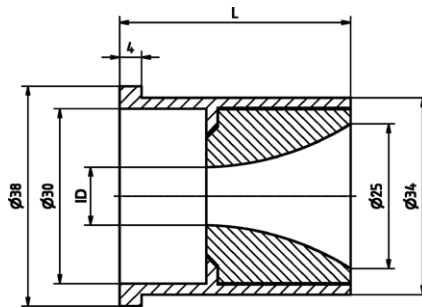
Nozzle		Nozzle	Product Type
Order Number	Part Description		Nozzle, Insert, Lance, Blast head, Air nozzle, Lead-in nozzle
12345677	Nozzle 0095/0680 NKBS	0095	Inner Diameter • in 1/10 mm (4 digits) • 0095 = 9.5 mm
12345678	Nozzle 0095/0681 NKBS		
12345679	Nozzle 0095/0682 NKBS	0680	Overall Length • in 1/10 mm (4 digits) • 0680 = 68 mm
		N	Nozzle Internal Shape Type • N Straight • L Laval • W Angle or curved and value of angle • S Lateral • B Wide-jet
		K	Connection Type • G Thread • F Clamping • K Coupling • S Hose • X None/Other
		B	Insert Material • F 3M™ Silicon Carbide • B 3M™ Boron Carbide
		S	Jacket Material • A Aluminum • S Steel

Nozzles



Nozzle with Connector

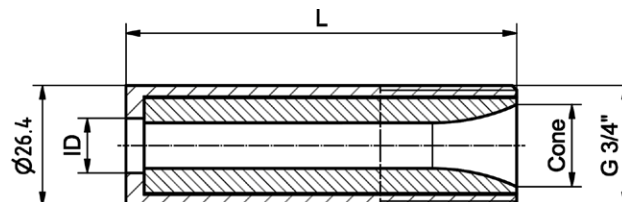
Order No.	Part Description	ID (mm)	OD (mm)	Length (mm)	Cone (mm)	Jacket
7010251746	Nozzle 0040/0560 NKBS	4.00	20.00	56.00	10.00	Steel
7010241794	Nozzle 0060/0860 NKBS	6.00	26.00	86.00	11.00	
7010252971	Nozzle 0080/0860 NKBS	8.00	26.00	86.00	12.00	
7010252972	Nozzle 0100/0860 NKBS	10.00	26.00	86.00	14.00	
7010253297	Nozzle 0100/1000 NKBS	10.00	26.00	100.00	14.00	
7010241795	Nozzle 0120/0860 NKBS	12.00	30.00	86.00	16.00	
7010251748	Nozzle 0120/1000 NKBS	12.00	30.00	100.00	16.00	



Lead-in Nozzle with Connector

Order No.	Part Description	ID (mm)	Length (mm)	Cone (mm)	Jacket
7010241014	Lead-in Nozzle 0060/0400 NKBS	6.00	40.00	25.00	Steel
7010252969	Lead-in Nozzle 0080/0400 NKBS	8.00	40.00	25.00	
7010231150	Lead-in Nozzle 0100/0400 NKBS	10.00	40.00	25.00	
7010235506	Lead-in Nozzle 0120/0400 NKBS	12.00	40.00	25.00	
7010252970	Lead-in Nozzle 0140/0400 NKBS	14.00	40.00	25.00	

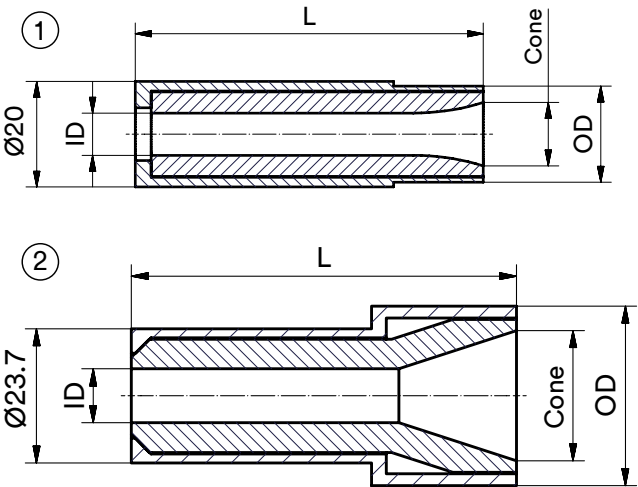
For your information: Nominal ID of Lead-in nozzle should be the same as nominal ID of subsequent nozzle. If exact ID is not available, Lead-in nozzle ID should be chosen with nearest bigger dimension.



Nozzle with External Thread

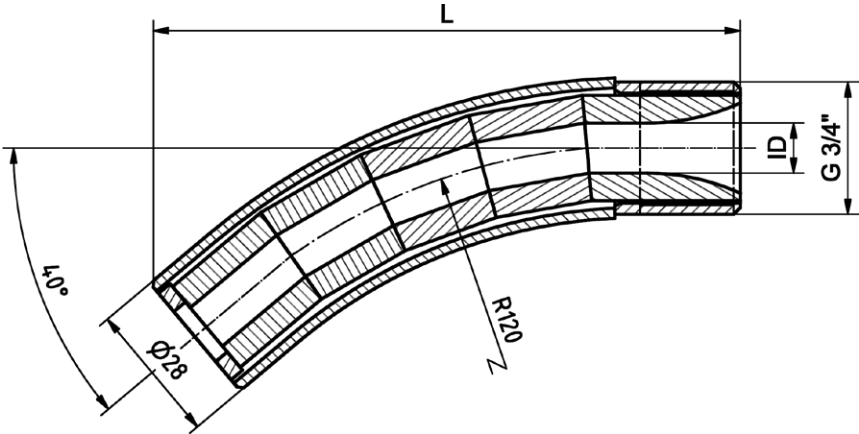
Order No.	Part Description	ID (mm)	Length (mm)	Cone (mm)	Jacket
7010251438	Nozzle 0060/0860 NGBS	6.00	86.00	18.00	Steel
7010241033	Nozzle 0080/0860 NGBS	8.00	86.00	18.00	
7010231871	Nozzle 0100/0860 NGBS	10.00	86.00	18.00	

Nozzles, continued



Nozzle for Clamping

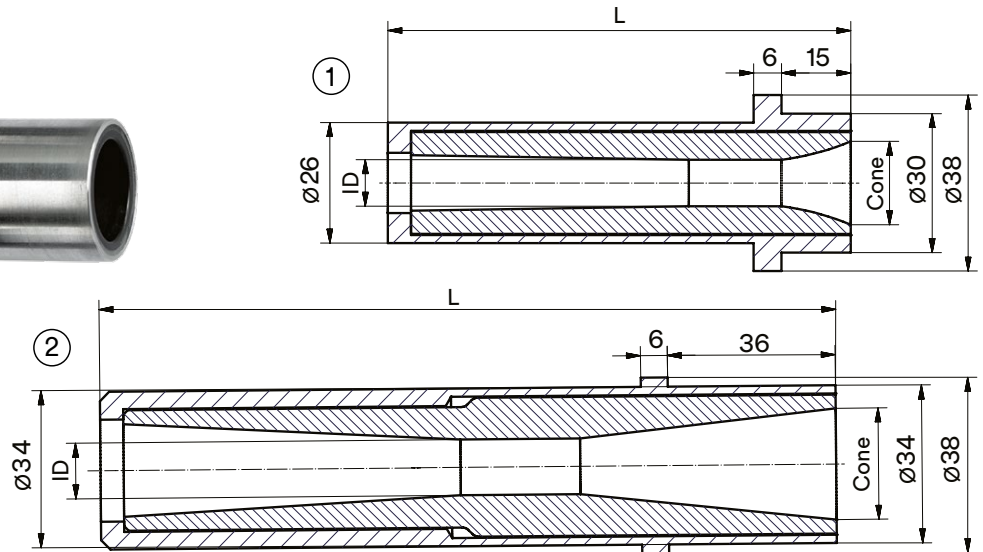
Type	Order No.	Part Description	ID (mm)	OD (mm)	Length (mm)	Cone (mm)	Jacket
1	7010251865	Nozzle 0060/0660 NFBS	6.00	18.20	66.00	12.00	Steel
1	7010251419	Nozzle 0070/0660 NFBS	7.00	18.20	66.00	12.00	
1	7010252987	Nozzle 0080/0660 NFBS	8.00	18.20	66.00	12.00	
2	7010241029	Nozzle 0095/0680 NFBS	9.50	31.70	68.00	23.00	



Angled Blast Nozzle 40° with External Thread

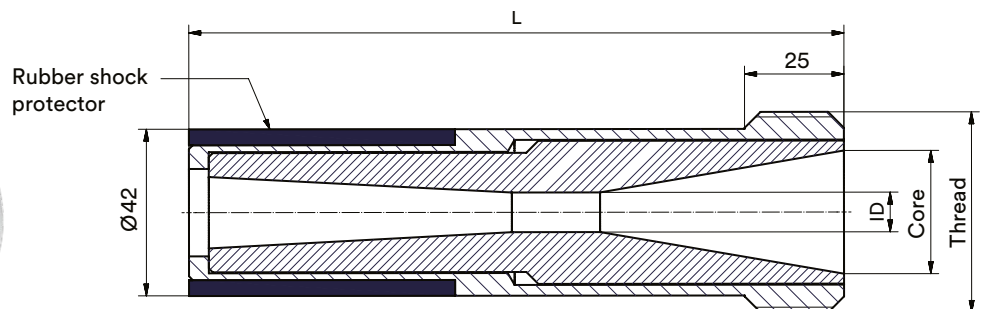
Order No.	Part Description	ID (mm)	Length (mm)	Cone (mm)	Jacket
7010251856	Nozzle 0060/0000 W40GBS	6.00	~ 125	18.00	Steel
7010231867	Nozzle 0080/0000 W40GBS	8.00	~ 125	18.00	
7010251857	Nozzle 0100/0000 W40GBS	10.00	~ 125	18.00	

Nozzles, continued



Laval Nozzle with Connector

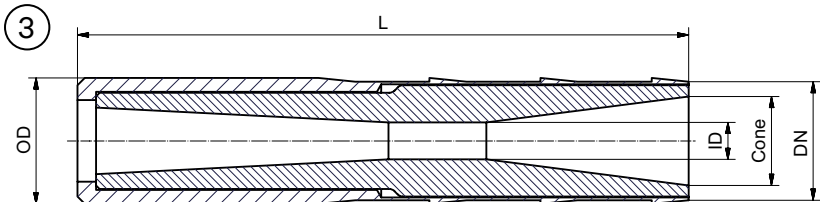
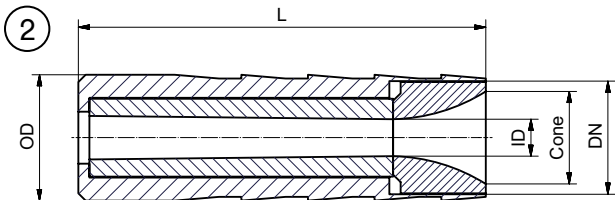
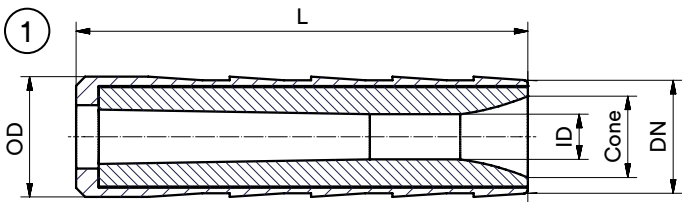
Type	Order No.	Part Description	ID (mm)	Length (mm)	Cone (mm)	Jacket
1	7010230762	Nozzle 0080/1000 LKBS	8.00	100.00	18.00	Steel
1	7010234368	Nozzle 0100/1000 LKBS	10.00	100.00	18.00	Steel
2	7010241020	Nozzle 0080/1650 LKBA	8.00	165.00	24.00	Aluminum
2	7010251858	Nozzle 0100/1650 LKBA	10.00	165.00	24.00	Aluminum
2	7010234369	Nozzle 0120/1650 LKBA	12.00	165.00	24.00	Aluminum



Laval Nozzle with 2" External Thread

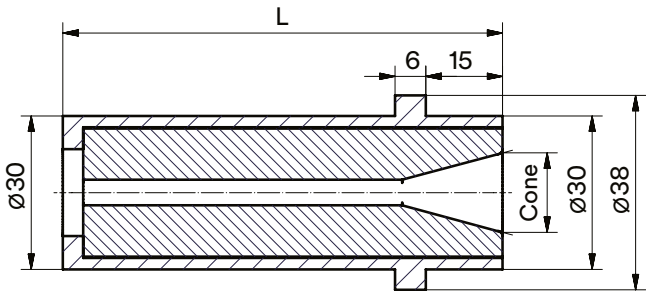
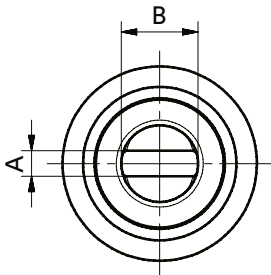
Order No.	Part Description	ID (mm)	Length (mm)	Cone (mm)	Jacket
7010251423	Nozzle 0080/1650 LGBA	8.00	165.00	24.00	Aluminum
7010239689	Nozzle 0080/1650 LGBA	8.00	165.00	31.00	
7010252976	Nozzle 0100/1650 LGBA	10.00	165.00	24.00	
7010252962	Nozzle 0100/1650 LGBA	10.00	165.00	31.00	
7010241026	Nozzle 0120/1650 LGBA	12.00	165.00	24.00	
7010251409	Nozzle 0120/1650 LGBA	12.00	165.00	31.00	

Nozzles, continued



Laval Nozzle for Direct Hose Connection

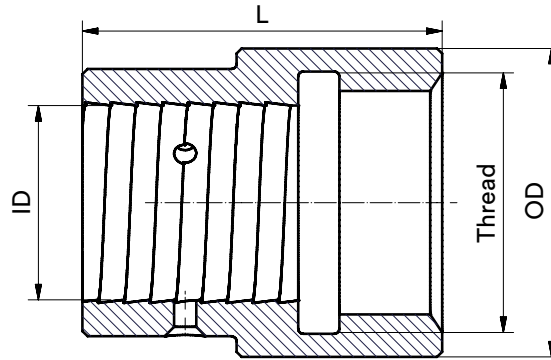
Type	Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	Cone (mm)	Jacket	Tube Nominal Diameter DN (mm)
1	7010252974	Nozzle 0080/1000 LSBS	8.00	100.00	26.60	18.00	Steel	25
1	7010241796	Nozzle 0100/1000 LSBS	10.00	100.00	26.60	18.00	Steel	25
2	7010274035	Nozzle 0100/1100 LSBS	10.00	110.00	34.00	25.00	Steel	32
2	7010251749	Nozzle 0120/1100 LSBS	12.00	110.00	34.00	25.00	Steel	32
3	7010229717	Nozzle 0100/1650 LSBA	10.00	165.00	34.00	24.00	Aluminum	32
3	7010274036	Nozzle 0120/1650 LSBA	12.00	165.00	34.00	24.00	Aluminum	32



Wide-jet Nozzle with Connector

Order No.	Part Description	Outlet B (mm)	Outlet A (mm)	Cone (mm)	Length (mm)	Jacket
7010241038	Nozzle 0150/0860 BKBS	15.00	5.00	15.00	86.00	Steel
7010252975	Nozzle 0160/0860 BKBS	16.00	8.00	18.00	86.00	

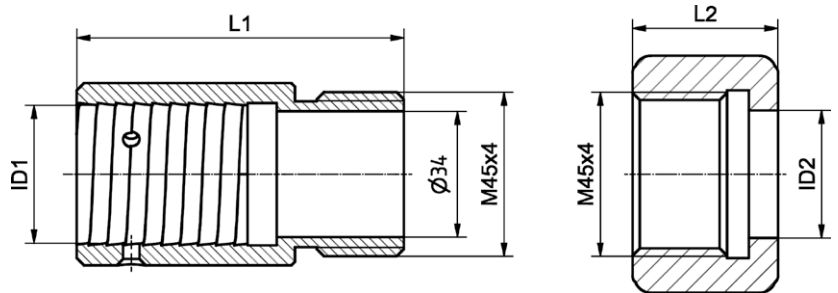
Nozzle Accessories



Nozzle Holder with 2" Internal Thread and Hose Connection

Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	Material	Connection Nozzle	Connection Tube DN (mm)
7010288270	Nozzle Holder IS25 - IG 2"	39.00	70.00	60.00	Aluminum	Thread 2"	25 × 7

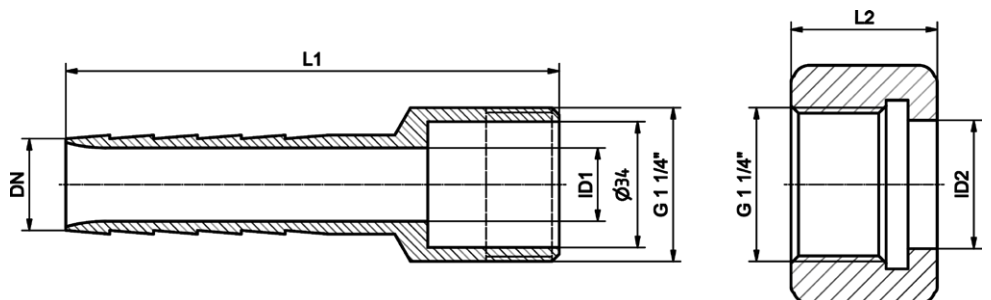
Note: Above listed holders are suitable for i.e. 3M Laval Nozzles with 2" connection thread.



Nozzle Holder for Hose Connection

Order No.	Part Description	ID1 (mm)	Length L1 / L2 (mm)	Material	Connection Nozzle	Connection Tube DN (mm)	ID2 (mm)
7010285476	Nozzle Holder IS16 - AG M45*4	29.00	90.00 / 40.00	Aluminum	Coupling	16 × 7	35.00
7010286416	Nozzle Holder IS19 - AG M45*4	32.00	90.00 / 40.00	Aluminum	Coupling	19 × 7	35.00
7010286414	Nozzle Holder IS25 - AG M45*4	37.80	90.00 / 40.00	Aluminum	Coupling	25 × 7	35.00
7010284503	Nozzle Holder IS32 - AG M45*4	46.50	90.00 / 40.00	Aluminum	Coupling	32 × 8	35.00

Note: Above listed holders are suitable for 3M nozzles with coupling connection, either direct (i.e. 3M laval nozzles) or straight nozzles in combination with lead-in nozzles.

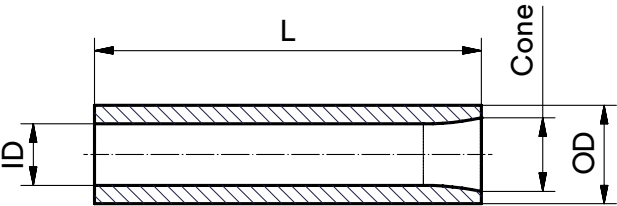


Nozzle Holder for Hose Connection

Order No.	Part Description	ID1 (mm)	Length L1 / L2 (mm)	Material	Connection Nozzle	Connection Tube DN (mm)	ID2 (mm)
7100185599	Nozzle Holder AS25 - AG G 1 1/4"	20.00	135.00 / 40.00	Steel	Coupling	25	35.00
7010286413	Nozzle Holder AS32 - AG G 1 1/4"	24.00	135.00 / 40.00	Steel	Coupling	32	35.00

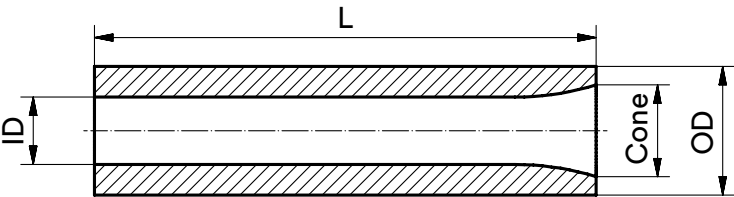
Note: Above listed holders are suitable for 3M nozzles with coupling connection, either direct (i.e. 3M laval nozzles) or straight nozzles in combination with lead-in nozzles.

Nozzle Inserts



Short Insert

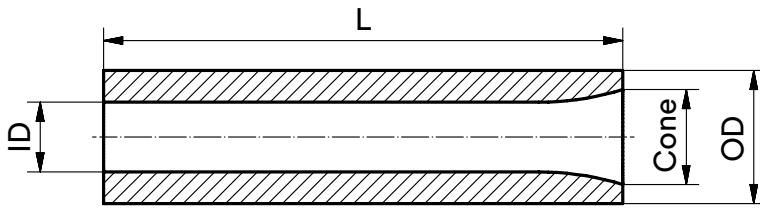
Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	Cone (mm)
7100245229	Insert 0030/0520 NB	3.00	52.00	16.00	10.00
7010235103	Insert 0040/0520 NB	4.00	52.00	16.00	10.00
7100148849	Insert 0050/0520 NB	5.00	52.00	16.00	10.00
7100239032	Insert 0060/0630 NB	6.00	63.00	16.00	12.00
7100310219	Insert 0070/0630 NB	7.00	63.00	16.00	12.00
7010274116	Insert 0080/0630 NB	8.00	63.00	16.00	12.00
7100239036	Insert 0100/0630 NB	10.00	63.00	16.00	12.00



Insert with Small Cone

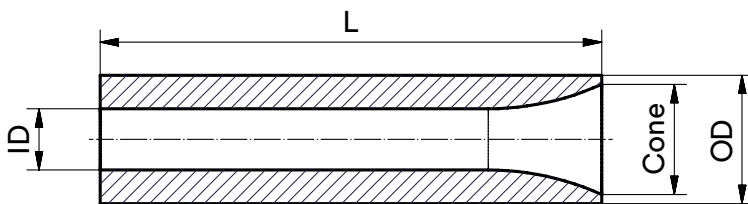
Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	Cone (mm)
7100311049	Insert 0060/0820 NB	6.00	82.00	21.00	11.00
7100239035	Insert 0080/0820 NB	8.00	82.00	21.00	12.00
7100282426	Insert 0100/0820 NB	10.00	82.00	21.00	14.00
7100311050	Insert 0110/0820 NB	11.00	82.00	21.00	15.00
7100239031	Insert 0120/0820 NB	12.00	82.00	25.00	16.00
7100310923	Insert 0130/0820 NB	13.00	82.00	25.00	17.00
7100310929	Insert 0140/0820 NB	14.00	82.00	25.00	18.00

Nozzle Inserts, continued



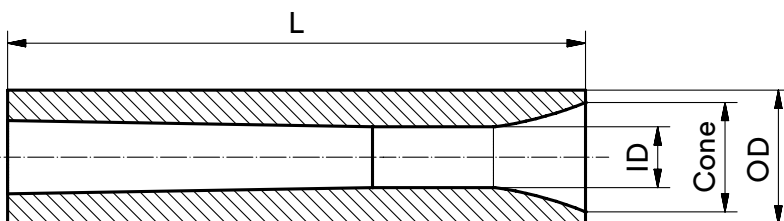
Long Insert with Small Cone

Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	Cone (mm)
7010234364	Insert 0060/0950 NB	6.00	95.00	21.00	10.00
7010241011	Insert 0080/0950 NB	8.00	95.00	21.00	12.00
7010231865	Insert 0100/0950 NB	10.00	95.00	21.00	14.00
7100259847	Insert 0120/0950 NB	12.00	95.00	25.00	16.00



Insert with Large Cone

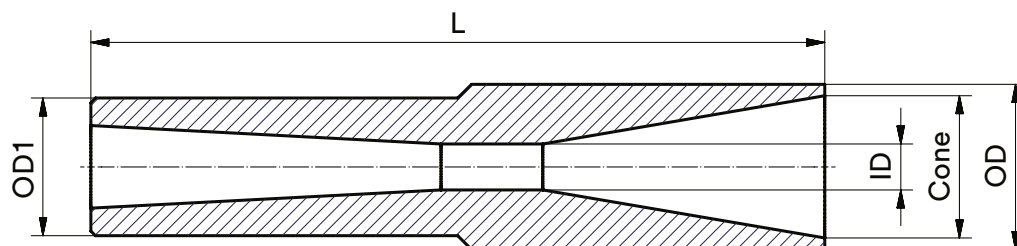
Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	Cone (mm)
7100310221	Insert 0060/0820 NB	6.00	82.00	21.00	18.00
7100253818	Insert 0080/0820 NB	8.00	82.00	21.00	18.00
7100258174	Insert 0100/0820 NB	10.00	82.00	21.00	18.00
7100304204	Insert 0120/0820 NB	12.00	82.00	25.00	22.00



Short Laval Insert

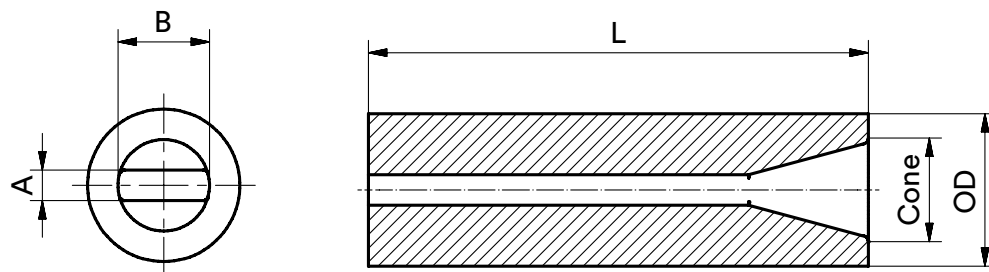
Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	Cone (mm)
7100281431	Insert 0060/0950 LB	6.00	95.00	22.00	18.00
7100311275	Insert 0080/0950 LB	8.00	95.00	22.00	18.00
7100311046	Insert 0100/0950 LB	10.00	95.00	22.00	18.00

Nozzle Inserts, continued



Long Laval Insert

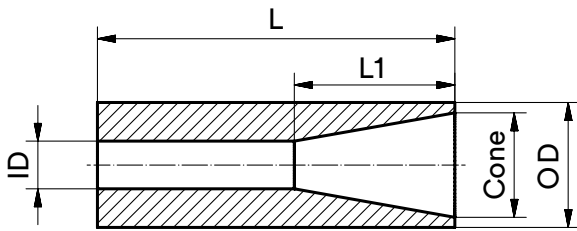
Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	OD1 (mm)	Cone (mm)
7100310982	Insert 0060/1360 LB	6.00	136.00	30.00	25.00	24.00
7100310222	Insert 0080/1360 LB	8.00	136.00	30.00	25.00	24.00
7100310981	Insert 0080/1600 LB	8.00	160.00	30.00	26.00	24.00
7100311054	Insert 0080/1600 LB	8.00	160.00	36.00	30.00	31.00
7100310980	Insert 0100/1600 LB	10.00	160.00	30.00	26.00	24.00
7100311052	Insert 0100/1600 LB	10.00	160.00	36.00	30.00	31.00
7100310926	Insert 0120/1600 LB	12.00	160.00	30.00	26.00	24.00
7100310979	Insert 0120/1600 LB	12.00	160.00	36.00	30.00	31.00
7100311043	Insert 0140/1600 LB	14.00	160.00	30.00	26.00	24.00
7100310924	Insert 0140/1600 LB	14.00	160.00	36.00	30.00	31.00



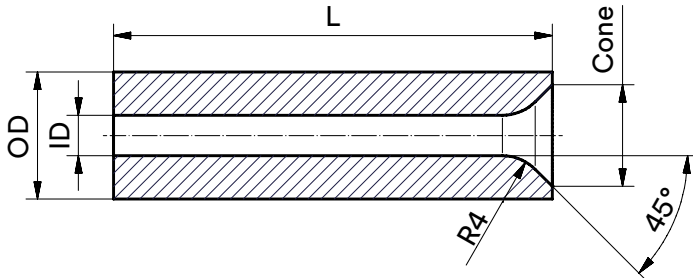
Wide-Jet Insert

Order No.	Part Description	Outlet Height A (mm)	Outlet Width B (mm)	Length (mm)	OD (mm)	Cone (mm)
7100310925	Insert 0080/0820 BB	16.00	8.00	82.00	25.00	18.00
7100311051	Insert 0080/0820 BB	15.00	5.00	82.00	25.00	17.00

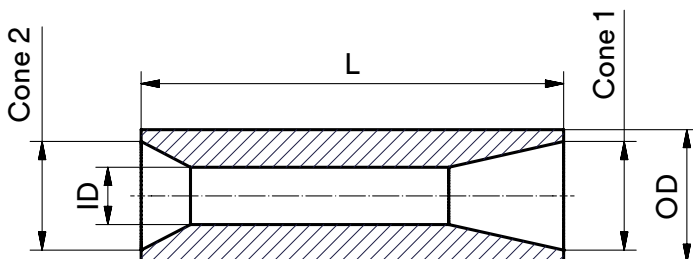
Miscellaneous Shapes



Order No.	Part Description	ID (mm)	Total Insert Length L (mm)	Cone Length L1 (mm)	OD (mm)	Cone (mm)
7010251743	Insert 0030/0150 NB	3.00	15.00	5.00	11.00	7.00
7010241044	Insert 0063/0508 NB	6.30	50.50	10.20	19.00	12.70
7010251923	Insert 0079/0508 NB	7.90	50.50	7.60	19.00	12.70
7010234375	Insert 0080/0600 NB	8.00	60.00	27.00	21.00	17.50
7010239687	Insert 0095/0760 NB	9.50	76.00	17.70	25.00	19.00
7010251405	Insert 0127/0760 NB	12.70	76.00	11.80	25.00	19.00



Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	Cone (mm)
7010251432	Insert 0035/0380 NB	3.50	38.00	11.00	8.80



Order No.	Part Description	ID (mm)	Length (mm)	OD (mm)	Cone 1/2 (mm)
7010251744	Insert 0095/0700 LB	9.50	70.00	22.00	18.00

Benefits of 3M™ Boron Carbide Blasting Nozzles

Proven expertise

For more than 100 years, 3M Technical Ceramics has been a competent development partner and reliable supplier of series products for challenging applications worldwide.

A one-stop supplier

All production processes, from raw material to final component, are performed at our fully dedicated, ISO 9001 and 14001 certified facilities. Our manufacturing processes are optimized for quality, efficiency and consistency – helping ensure reliable and repeatable product performance.

Our customers – our partners

Our technical specialists are dedicated to developing new and innovative solutions to help solve your toughest challenges. We have a long experience and we continually work to develop new applications for ceramic materials in cooperation with our customers and with research institutions.

Product is manufactured and sold by 3M Technical Ceramics, Zweigniederlassung der 3M Deutschland GmbH.

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Limitation of Liability: Except where prohibited by law, we will not be liable for any loss or damages arising from the product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. We accept liability for intent and gross negligence. We are also liable for any culpable breach of major contractual obligations; however, if a breach of major contractual obligations is due to negligence, our liability is limited to the foreseeable damage associated with this type of contract. This does not affect our liability for culpable fatal or bodily injury or damage to health; this also applies to liability under the Product Liability Act (Produkthaftungsgesetz). Other claims for compensation are excluded.

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3M Technical Ceramics
Zweigniederlassung der
3M Deutschland GmbH
Max-Schaidhauf-Straße 25
87437 Kempten, Germany
T +49 (0)831 5618-0
F +49 (0)831 5618-345
info.technical-ceramics@3M.com
www.3m.co.uk/Technical-Ceramics

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