



STONEWORKING

MULTI-METALS

Multi-Metals controls the entire manufacturing process beginning with grade formulation. We incorporate a state-of-the-art powder processing plant to convert raw material into standard and custom grade formulations to meet industry and application-specific requirements. This capability allows us to maintain the tightest control possible on the metallurgy of the finished product.

Advanced technologies like injection molding as well as conventional compaction techniques are utilized to bring product to life. The most advanced robotics and process controls are implemented throughout our plant to ensure we deliver the product you specify and the quality you expect.

Process flexibility allows us to manufacture your product using the technology that serves you, our customer, the best. Our diverse sintering technologies include conventional vacuum, sinter-HIP (Hot Isostatic Press), and controlled-atmosphere, continuous-flow furnaces.

A complete metallurgical laboratory, featuring a Scanning Electron Microscope and an impressive array of other testing and analysis equipment, gives us the on-site capability to ensure that our quality standards are never compromised. Additionally, our technical expertise allows us to provide outstanding customer support in the form of failure analysis and process troubleshooting.

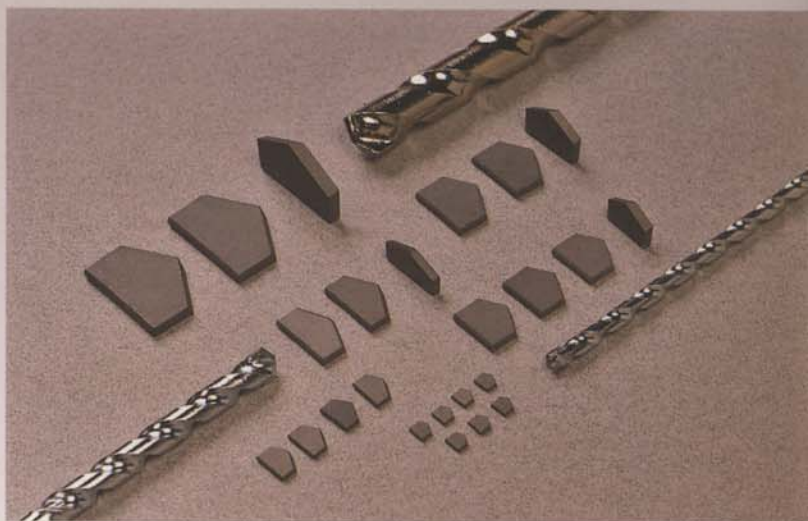
Customer satisfaction is our primary goal and our staff is among the most knowledgeable in the world. We support a multi-million dollar inventory spanning hundreds of part numbers allowing us to deliver your product quickly. We also offer custom stocking programs for non-standard items.



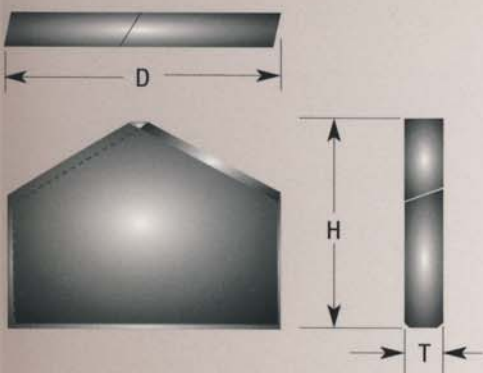
Drill Tips

Multi-Metals produces the highest quality drill tips in the world. Our ability to control the entire production process from grade formulation to final inspection ensures you are using the best carbide available for your end product. In addition to the standard sizes listed below, we also have tooling for custom designs and are always willing to work with our customers to achieve product improvement.

Also available for demanding percussion applications are our patented Dyanite® grades. Engineered for outstanding fracture toughness without sacrificing hardness, Dyanite® is the only product on the market to achieve this elusive combination. So if extended life and high-performance are key to your product, ask us about Dyanite® and set yourself apart from the competition.



Masonry Drill Tips



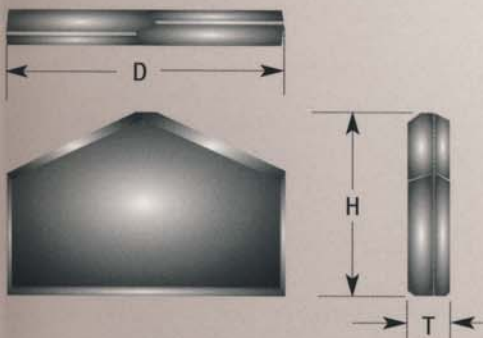
Catalog #	Nom. (in)	D	T	H
C4890-1	1/8"	0.140	0.035	0.164
C4890-2	5/32"	0.171	0.035	0.180
C4890-3	3/16"	0.206	0.045	0.197
C4890-4	7/32"	0.237	0.045	0.220
C4890-5	1/4"	0.268	0.060	0.220
C4890-6	9/32"	0.304	0.060	0.260
C4890-7	5/16"	0.335	0.060	0.260
C4890-8	3/8"	0.398	0.078	0.320
C4890-9	7/16"	0.468	0.078	0.375
C4890-10	1/2"	0.530	0.091	0.430
C4890-11	9/16"	0.592	0.091	0.472
C4890-12	5/8"	0.660	0.091	0.510
C4890-13	3/4"	0.787	0.091	0.598
C4890-14	7/8"	0.917	0.091	0.650
C4890-15	1"	1.042	0.122	0.718

Masonry Drill Tips (Low-Cost Design)

Catalog #	Nom. (in)	D	T	H
C4521-1	1/8"	0.140	0.035	0.138
C4521-2	5/32"	0.175	0.035	0.155
C4521-3	3/16"	0.207	0.047	0.175
C4521-4	1/4"	0.268	0.060	0.197
C4521-5	5/16"	0.335	0.060	0.236
C4521-6	3/8"	0.398	0.078	0.275
C4521-7	7/16"	0.468	0.078	0.300
C4521-8	1/2"	0.530	0.078	0.330
C4521-9	9/16"	0.592	0.091	0.350
C4521-10	5/8"	0.660	0.091	0.395
C4521-11	11/16"	0.723	0.091	0.430
C4521-12	3/4"	0.787	0.091	0.475
C4521-13	7/8"	0.917	0.091	0.530
C4521-14	1"	1.042	0.091	0.575

Percussion Drill Tips

ANSI Dimensions



Catalog #	Nom. (in)	D	T	H
C5064-1	1/8"	0.140	0.039	0.165
C5064-2	3/16"	0.206	0.047	0.197
C5064-3	1/4"	0.268	0.055	0.220
C5064-4	5/16"	0.335	0.079	0.260
C5064-5	3/8"	0.398	0.087	0.295
C5064-6	7/16"	0.468	0.087	0.335
C5064-7	1/2"	0.530	0.110	0.374
C5064-8	9/16"	0.592	0.118	0.413
C5064-9	5/8"	0.660	0.118	0.413
C5064-10	3/4"	0.787	0.138	0.512
C5064-11	7/8"	0.917	0.157	0.551
C5064-12	1"	1.042	0.177	0.591

Metric Dimensions

Catalog #	Nom. (mm)	D	T	H
C5065-1	4.0	4.36	1.0	4.5
C5065-2	4.5	4.80	1.4	5.0
C5065-3	5.0	5.35	1.4	5.0
C5065-4	5.5	5.86	1.4	5.3
C5065-5	6.0	6.36	1.4	5.3
C5065-6	6.5	6.80	1.4	5.8
C5065-7	7.0	7.36	1.6	5.8
C5065-8	8.0	8.36	2.0	6.5
C5065-9	9.0	9.39	2.0	6.9
C5065-10	10.0	10.39	2.2	7.5
C5065-11	11.0	11.43	2.2	8.5
C5065-12	12.0	12.43	2.5	9.0
C5065-13	13.0	13.46	2.8	9.5
C5065-14	14.0	14.46	3.0	9.8
C5065-15	15.0	15.46	3.0	10.5
C5065-16	16.0	16.46	3.0	10.5
C5065-17	17.0	17.46	3.0	10.5
C5065-18	18.0	18.46	3.5	11.0
C5065-19	20.0	20.55	3.5	13.0
C5065-20	22.0	22.55	4.0	14.0
C5065-21	24.0	24.55	4.5	15.0
C5065-22	25.0	25.55	4.5	15.0
C5065-23	26.0	26.55	4.5	15.0

Grade Chart

Grade	Cobalt%	HRA	Density (g/cc)	TRS (PSI)
XM4	6.00	93.0-94.0	14.85-15.05	280,000
RD55	5.50	92.0-93.0	14.90-15.10	315,000
HOM2	6.00	91.6-92.4	14.925-14.975	320,000
OM2	6.00	91.2-92.2	14.85-15.05	333,000
1M2	6.00	90.5-91.5	14.85-15.05	390,000
HOM1	8.50	90.0-90.9	14.675-14.725	335,000
OM1	9.00	89.5-90.5	14.55-14.75	390,000

Other grades available

Terms & Conditions

1. Warranty: We will replace any material which is proven defective within 90 days after receipt of same by customer when properly used for the purpose specified in the order, but no claim for labor or damage will be allowed. Claims for errors must be made on receipt of material.
2. Over and Under Shipments: We reserve the right to over or under ship 10% of the specified quantity and orders will be closed out and invoiced with shortages or overages.
3. Terms and Conditions of all quotations are contingent upon strikes, accidents and other causes beyond our reasonable control.
4. Dies and tools used in manufacturing shall remain the property of Multi-Metals.
5. Material can only be returned after obtaining authorization. Returned material must be carefully packed and insured for shipment as we will not accept responsibility for damaged or lost product while enroute to us.
6. Special, non-standard items cannot be canceled or returned for exchange or credit. Standard items can only be returned after our consent is first obtained and after determining whether or not our standard 15% handling charge is applicable.
7. Modification: No terms or conditions, other than those stated herein, and no agreement or understanding in any way modifying the terms and conditions herein stated, shall be binding upon the seller unless made in writing and signed by the authorized sales agent.
8. Delivery: Estimated delivery is based on production time required to process order commencing with date order is received by us.
9. Verification of Credit Rating: Quotations are submitted subject to verification of a satisfactory credit rating.

WARNING TUNGSTEN CARBIDE/COBALT/NICKEL

Exposure to cobalt/nickel powder, to dust or to coolant mist from grinding this product may cause nose, throat, skin, or eye irritation, or temporary or permanent respiratory disease, which may lead to disability or death. If you experience any symptoms of these problems, such as tightness in chest, shortness of breath, coughing, wheezing, loss of appetite, or nausea, immediately discontinue exposure to the powder, dust or mist, consult a physician and advise physician you have been exposed to cobalt and/or nickel.



- Avoid breathing powder, dust or coolant mist from grinding.
- Avoid skin contact with powder, dust or coolant mist.
- Use protective devices and adequate ventilation.
- Keep dust level below OSHA and ACGIH levels.
- Wash hands thoroughly after using and before smoking or eating.
- Dispose of materials in accordance with local, state and/or Federal regulations.



Multi-Metals

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