



My New Heroes

Tim Halkyard, Nick Hudson, Paul Duclos of CWSFEA and Dick Bernier, Mike West, Rudi Sommer of WSFEA plus everyone else who volunteers to put on filer meetings. Including the really nice ladies that run registration.

I just got back from CWSFEA (California Western Saw filers Educational Association) in Redding, California. This year I exhibited, spoke and did postcard mailings so I was more involved than I have been before.

I was tremendously impressed by how much work the committee members and the vendor relations people did. These folks put in much more time and work than I ever realized.

Western Saw Filers 2012 Meeting

September 14th and 15th, 2012
At the Monarch Hotel in
Clackamas, OR
(Just outside of Portland)

Plan to attend - All Saw Filers are invited and are encouraged to invite their Management and Maintenance Personnel. More info online:
<http://westernsawfilers.org/>

If you want advertising for your saw filer meeting, please let us know. We also set up and printed business cards at the meeting which were very popular.



Tim Halkyard, Head Filers
Sierra Pacific, Burney CA 96013
PO Box 754 M^cCloud, CA 96057
HWY 299 East Burney, CA 96013
Work Phone: (530) 335-3681 Ext. 228
Cell: (530) 949-7564
Email: Tim11Halk22@yahoo.com

Carbide Processors, Inc.

Northwest Research Institute, Inc.

Newsletter June, 2012

3847 S. Union Ave. Tacoma, WA. 98409 (800) 346-8274

sales@carbideprocessors.com www.carbideprocessors.com

Ceratizit Doubles Prices?

Letter from a customer who watches his costs:

Hi Tom,

I order saw tips from Ceratizit, I use the KCR05 for panel saws and it works really good. In Jan. 2010 for the 10.5 x 6.5 x 3.5 I paid \$30.73/100, now I got the price and they are \$56.45/100. The 12.5 x 6.0 x 4.0 were \$27.86/100 and now \$71.29/100. How can these go up that high?

Dear Sir:

The big problem is a huge escalation in raw material prices. Ammonium Paratungstate is the raw material for Tungsten Carbide. It has better than doubled in that time. China owns it and is using much of it for their own production. Their attitude is that you can pay their price or do without. Silver has about doubled as well. In this case it is mostly speculation. People buy it and hoard it because they do not trust the dollar.

For quite a while most of us, including Ceratizit, thought it was a temporary and small price increase. However it has turned out to be much longer and much greater.

In my opinion, for years Ceratizit wanted to increase market share and they sold at prices that were very low. Now they can no longer afford to do that. Unfortunately they got themselves into a real mess where they had to make a huge adjustment.

Call us for a quote instead of Ceratizit

Our Carbide Prices Are Lower
Also really good prices on braze
alloy (Silver Solder)

Why is a carbide grade with a higher rated strength, not as tough?

Monte Murphy - Murphy Saw

Monte Murphy likes thing to run right then he wants them to run better. He also has an incredible gift for seeing right to the heart of a problem.

He was working on a carbide breakage problem and we suggested a tougher grade. The grade we suggested had a lower TRS (Transverse Rupture Strength) than the grade he was using.

That is when Monte asked the question. I replied by asking who was tougher; a grown man or a little girl. (I once tried to get 3 year old to just try a Brussels sprout.)

Monte got that. It took me a month or so to come up with a more formal answer.

Basically the TRS test is a slow push test. It is slow, very carefully controlled and that is all that is going on.

Real life is different. In real life carbide gets hit hard and fast from different angles. Plus you have acid, rubbing, and maybe a dozen other things going on.

Basically I figure that there about 17 different things that cause carbide wear and about 21 tests for carbide plus microscopic examination.

None of the tests exactly match the problems carbide sees in real life.

When you combine all 17 factors you get a very, very complicated situation. (More on P. 4)

Super Carbide Sale

Untinned (Free quote on pretinned) 800 346-8274

Look at These Prices!

Half Inch Tips			Your Low, Low Price
Size		GRADE	
WFC 7140	.500x.125x0.140	C1 - 12% Cobalt, very tough	\$0.25
WFC 7150	.500x.125x0.150	C1 - 12% Cobalt, very tough	\$0.27
WFC 7160	.500x.125x0.160	C1 - 12% Cobalt, very tough	\$0.28
WFC 7160	.500x.125x0.160	C-2, 8% Cobalt, General Purpose	\$0.28
WFC 7170	.500x.125x0.170	C1 - 12% Cobalt, very tough	\$0.30
WFC 7180	.500x.125x0.180	C-2, 8% Cobalt, General Purpose	\$0.32
WFC 7180	.500x.125x0.180	C1 - 12% Cobalt, very tough	\$0.32
WFC 7190	.500x.125x0.190	C1 - 12% Cobalt, very tough	\$0.33
WFC 7200	.500x.125x0.200	C1 - 12% Cobalt, very tough	\$0.35
WFC 7200	.500x.125x0.200	C-2, 8% Cobalt, General Purpose	\$0.35
WFC 7250	.500x.125x0.250	C1 - 12% Cobalt, very tough	\$0.43
WFC 7280	.500x.125x0.280	C1 - 12% Cobalt, very tough	\$0.48
WFC 7310	.500x.125x0.310	C-2, 8% Cobalt, General Purpose	\$0.53
Strobs			
Size		Grade	
ST1130	1x.125x0.130	C1 - 12% Cobalt, very tough	\$0.57
ST1140	1x.125x0.140	C1 - 12% Cobalt, very tough	\$0.61
ST1150	1x.125x0.150	C1 - 12% Cobalt, very tough	\$0.66
ST1160	1x.125x0.160	C1 - 12% Cobalt, very tough	\$0.70
ST1170	1x.125x0.170	C1 - 12% Cobalt, very tough	\$0.74
ST1180	1x.125x0.180	C1 - 12% Cobalt, very tough	\$0.78
ST1210	1x.125x0.210	C1 - 12% Cobalt, very tough	\$0.90
ST1230	1x.125x0.230	C1 - 12% Cobalt, very tough	\$0.98
ST1250	1x.125x0.250	C1 - 12% Cobalt, very tough	\$1.07
ST1280	1x.125x0.280	C1 - 12% Cobalt, very tough	\$1.19
ST2140	1x.125x0.140	C1 - 12% Cobalt, very tough	\$0.78
ST2160	1x.125x0.160	C1 - 12% Cobalt, very tough	\$0.88
ST2170	1x.125x0.170	C1 - 12% Cobalt, very tough	\$0.93
ST2180	1x.125x0.180	C1 - 12% Cobalt, very tough	\$0.99
ST2200	1x.125x0.200	C1 - 12% Cobalt, very tough	\$1.09
ST2230	1x.125x0.230	C1 - 12% Cobalt, very tough	\$1.25
ST2250	1x.125x0.250	C1 - 12% Cobalt, very tough	\$1.36

Limited Quantities and They Go Fast
Buy Now and Save on Really Great tips

"These are the Good Ones"

That is what the customers say

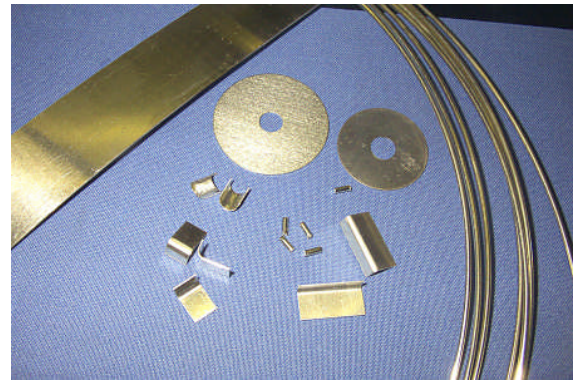
- This is a new supplier for us and we are extremely careful whose tips we sell. We spent years working with and testing with this supplier. Now we are selling these tips and the customers love them.
- These tips have great edges so they are easy to grind
- The size is extremely consistent so they feed well
- They are extremely well made so they hold up well
- And everybody loves the incredibly low prices

How can we run a sale when the big suppliers are doubling their prices or better?

Easy. Our Policy has always been fair pricing for everyone. We know about all the pricing games. We went to college and we read books. However we also live in the real world. We want to deal with smart customers. Our customers want dependable products at dependable prices so that is what we give them.

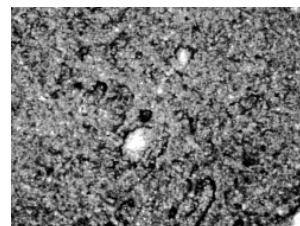
Braze Alloy (Silver Solder) At Good Prices

Silver is down a little and we have greatly increased the amount we sell so we get an even bigger discount from the manufacturer. Call (800) 346-8274, Fax (253)476-1321 or email sales@carbideprocessors.com for a free quote.

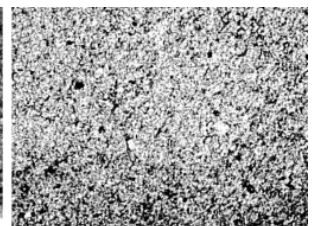


We Sell Flux

White Flux, Black Flux, Purified Flux and the very popular new Mega Flux.



Black Flux at 30X
Showing inert inclusions



Purified Flux at 30x
No foreign materials

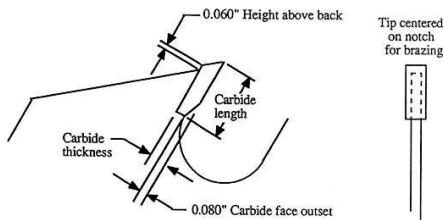
Two Free, Great Books

We have the Freeborn Carbide Saw Manual and The Carbide Saw Specification Manual. Both are free as digital copies and cost a couple bucks if you want them printed and bound.

Both are excellent and you really should have them. Just call Emily or Whitney at 800 346-8274 or email sales@carbideprocessors.com

Here are two pages from The Carbide Saw Specification Manual.

Carbide Tips: Size and Placement



Specification

Size and placement of tips shall (unless specified otherwise) be as listed below, with the stated tolerances:

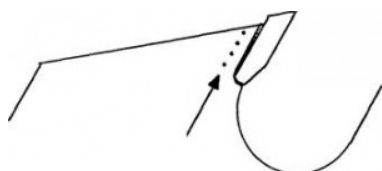
Suggested Tolerances by Size

- Length - 0.500" (1/2") nominal*
+ / - 0.005" before grinding
 - Thickness - 0.125" (1/8") nominal*
+ / - 0.005" before grinding
 - Height above back - 0.060"
+ / - 0.010"
 - Face outset - 0.080" + / - 0.010"
- *recommended size

Verification

- * Length and thickness: Use a dial caliper to measure at least 3 tips on either new or retipped saws.
- * Positioning: Check that tips are set parallel to the notches and that too much carbide was not ground off the tip faces.
- * Height above back and face outset: Use a dial caliper on at least 3 random tips.

Carbide Tips: Brazing Carbide Saw Blade Specification Manual: P. 20



Brazing Hardness, Measurement Points (1/8" apart)

Specification

- * Hardness adjacent to braze shall be \pm 2 points of Rockwell "C" of the specified plate hardness.
- * Braze shall cover the full area of contact between tip and notch.
- * Solder shall be clean, smooth and bright, without cracks or porosity.
- * Tips shall be centered on each notch, and square with the plate.

Verification

- * Use a X10 hand lens to inspect several joints.
- * Hardness must be tested with a reliable bench type Rockwell hardness tester.

Assailant Suffers Injuries From Fall

Orville Smith, a store manager for Best Buy in Augusta, GA, told police he observed a male customer, later identified as Tyrone Jackson of Augusta, on surveillance cameras putting a laptop computer under his jacket. When confronted the man became irate, knocked down an employee, drew a knife and ran for the door.

Outside were four marines collecting for the Toys for Tots program. Smith said the Marines stopped the man, but he stabbed one of the Marines, Cpl. Phillip Duggan, in the back; the injury did not appear to be severe.

After Police and an ambulance arrived at the scene Cpl. Duggan was transported for treatment. "The subject was also transported to a local hospital with two broken arms, a broken ankle, a broken leg, several missing teeth, possible broken ribs, multiple contusions, assorted lacerations, a broken nose and a broken jaw...injuries he sustained when he slipped and fell off of the curb after stabbing the marine." according to a police report.

16 Things That It Took Me Over 50 Years To Learn: by Dave Barry

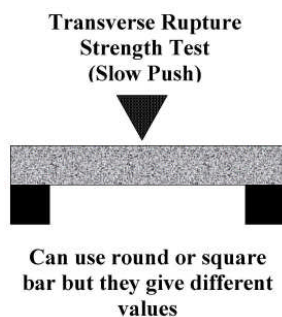
1. Never, under any circumstances, take a sleeping pill and a laxative on the same night.
2. If you had to identify, in one word, the reason why the human race has not achieved, and never will achieve, its full potential, that word would be "meetings."
3. There is a very fine line between "hobby" and "mental illness."
4. People who want to share their religious views with you almost never want you to share yours with them.
5. You should not confuse your career with your life.
6. Nobody cares if you can't dance well. Just get up and dance.
7. Never lick a steak knife.
8. The most destructive force in the universe is gossip.
9. You will never find anybody who can give you a clear and compelling reason why we observe daylight savings time.
10. You should never say anything to a woman that even remotely suggests that you think she's pregnant unless you can see an actual baby emerging from her at that moment.
11. There comes a time when you should stop expecting other people to make a big deal about your birthday. That time is age eleven.
12. The one thing that unites all human beings, regardless of age, gender, religion, economic status or ethnic background, is that, deep down inside, we ALL believe that we are above average drivers.
13. A person, who is nice to you, but rude to the waiter, is not a nice person. (This is very important. Pay attention. It never fails.)
14. Your friends love you anyway.
15. Never be afraid to try something new. Remember that a lone amateur built the Ark. A large group of professionals built the Titanic.
16. Men are like a fine wine. They start out as grapes, and it's up to the women to stomp them until they turn into something acceptable to have dinner with.

Kinds of Carbide Strength

It depends on what you mean by strength.

(This is part of a 12 page paper. If you want the whole thing just call 800 346-8274 or email sales@carbideprocessors.com)

1. The Transverse Rupture Strength Test is a slow push test.



You support a round or square bar on each end and apply force in the middle until the bar breaks.

This is rarely the way force is actually applied in industrial use.

“Push Start Joke”

The battery in my beat-up VW Beetle had died because I left the lights on overnight. I was in a hurry to get to work on time so I ran into the house to get my wife to give me a hand to start the car.

I told her to get into our second car, a prehistoric oversized gas guzzler, and use it to push my car fast enough to start it. I pointed out to her that because the VW had an automatic transmission, it needed to be pushed at least 20 mph for it to start.

She said fine, hopped into her car and drove off.

I sat there fuming wondering what she could be doing.

A minute passed by and when I saw her in the rear-view mirror coming at me at about 30 mph, I realized that I should have been a bit clearer with my directions.

2. Corrosion

Corrosion tests use laboratory acids and similar. These are consistent and pure so that you can compare results. Wood acids are entirely different acids in many ways. In addition acids typically attack the cobalt binder more than anything else. The acids react with the cobalt and form an inert layer. The wood fibers wipe this layer off and the acid has new material to attack. Different materials have different fibers and different fiber orientation. Different parts of the same log have different fiber structure.

Tungsten-carbide-based hardmetals have good to excellent resistance to acetone, ammonia, ethanol, ethylene glycol, oxalic acid, paraffin, sodium carbonate, sodium hydroxide, sodium chloride and tap water. They have much less resistance to acetic, formic, hydrochloric, hydrofluoric, nitric, perchloric, phosphoric, sulphuric and other strong acids.

3. Combination of Factors

In the example above, the kinds of chemicals as well as the kind and direction of fibers combine to affect the corrosion.

Tribology is the science and engineering of interacting surfaces in relative motion. It includes the study and application of the principles of friction, lubrication and wear. Tribology is a branch of mechanical engineering.

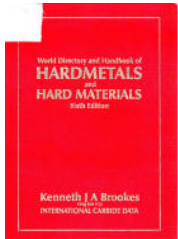
17 Factors That Can Contribute To Carbide Wear

1. Wear – the grains and the binder just plain wear down
Wear is often assumed to be straight abrasive wear. The just plain rubbing of material against material always plays a part. However there can be a whole lot of other factors involved.
2. Macrofracture – big chunks break off or the whole part breaks
3. Microfracture – edge chipping

4. Crack Initiation – How hard it is to start a crack.
5. Crack propagation - how fast and how far the crack runs once started
6. Individual grains breaking
7. Individual grains pulling out.
8. Friction Welding between the carbide and the material being cut
9. Physical Adhesion – the grains get physically pulled out. Think of sharp edges of the grains getting pulled by wood fibers.
10. Chemical adhesion – think of the grains as getting glued to the material being cut such as MDF, fibreboard, etc.
11. Chemical leaching that will dissolve the binder and let the grains fall out. As with any chemical reaction of this sort the acids create a salt that protects underlying binder until the salt is abraded away so grain size and binder chemistry are also important.
12. Rubbing can also generate an electrical potential that will accelerate grain loss.
13. Part deformation - If there is too much binder the part can deform.
14. Metal fatigue – The metal binder gets bent and fatigues like bending a piece of steel or other metal
15. Heat – adds to the whole thing especially as a saw goes in and out of a cut. The outside gets hotter faster than the inside. As the outside grows rapidly with the heat the inside doesn't grow as fast and this creates stress that tends to cause flaking (spalling) on the outside.
16. Compression / Tension Cycling - in interrupted cuts the carbide rapidly goes through this cycle. There is good evidence that most damage is done as the carbide tip leaves the cut and pressure is released.
17. Tribology – as the tip moves through the material it is an acid environment and the heat and friction of the cutting create a combination of forces.

Carbide Users often get very little information and much of that is misleading.

The Carbide Industry Bible 1996
\$495.00 new. Sixteen years old and still a great source of information



Grade	Chemical composition: weight per cent				Average grain size (microns)	Tensile strength (kg/cm ²)	Density (g/cm ³)	Hardness (HV)	ISO number
	WC	Co	Ni	Cr					
W01	99.9	0.1	0	0	0.8	1400	15.70	1400	K10
W02	99.8	0.2	0	0	0.8	1400	15.70	1400	K10
W03	99.7	0.3	0	0	0.8	1400	15.70	1400	K10
W04	99.6	0.4	0	0	0.8	1400	15.70	1400	K10
W05	99.5	0.5	0	0	0.8	1400	15.70	1400	K10
W06	99.4	0.6	0	0	0.8	1400	15.70	1400	K10
W07	99.3	0.7	0	0	0.8	1400	15.70	1400	K10
W08	99.2	0.8	0	0	0.8	1400	15.70	1400	K10
W09	99.1	0.9	0	0	0.8	1400	15.70	1400	K10
W10	99.0	1.0	0	0	0.8	1400	15.70	1400	K10
W11	98.9	1.1	0	0	0.8	1400	15.70	1400	K10
W12	98.8	1.2	0	0	0.8	1400	15.70	1400	K10
W13	98.7	1.3	0	0	0.8	1400	15.70	1400	K10
W14	98.6	1.4	0	0	0.8	1400	15.70	1400	K10
W15	98.5	1.5	0	0	0.8	1400	15.70	1400	K10
W16	98.4	1.6	0	0	0.8	1400	15.70	1400	K10
W17	98.3	1.7	0	0	0.8	1400	15.70	1400	K10
W18	98.2	1.8	0	0	0.8	1400	15.70	1400	K10
W19	98.1	1.9	0	0	0.8	1400	15.70	1400	K10
W20	98.0	2.0	0	0	0.8	1400	15.70	1400	K10
W21	97.9	2.1	0	0	0.8	1400	15.70	1400	K10
W22	97.8	2.2	0	0	0.8	1400	15.70	1400	K10
W23	97.7	2.3	0	0	0.8	1400	15.70	1400	K10
W24	97.6	2.4	0	0	0.8	1400	15.70	1400	K10
W25	97.5	2.5	0	0	0.8	1400	15.70	1400	K10
W26	97.4	2.6	0	0	0.8	1400	15.70	1400	K10
W27	97.3	2.7	0	0	0.8	1400	15.70	1400	K10
W28	97.2	2.8	0	0	0.8	1400	15.70	1400	K10
W29	97.1	2.9	0	0	0.8	1400	15.70	1400	K10
W30	97.0	3.0	0	0	0.8	1400	15.70	1400	K10
W31	96.9	3.1	0	0	0.8	1400	15.70	1400	K10
W32	96.8	3.2	0	0	0.8	1400	15.70	1400	K10
W33	96.7	3.3	0	0	0.8	1400	15.70	1400	K10
W34	96.6	3.4	0	0	0.8	1400	15.70	1400	K10
W35	96.5	3.5	0	0	0.8	1400	15.70	1400	K10
W36	96.4	3.6	0	0	0.8	1400	15.70	1400	K10
W37	96.3	3.7	0	0	0.8	1400	15.70	1400	K10
W38	96.2	3.8	0	0	0.8	1400	15.70	1400	K10
W39	96.1	3.9	0	0	0.8	1400	15.70	1400	K10
W40	96.0	4.0	0	0	0.8	1400	15.70	1400	K10
W41	95.9	4.1	0	0	0.8	1400	15.70	1400	K10
W42	95.8	4.2	0	0	0.8	1400	15.70	1400	K10
W43	95.7	4.3	0	0	0.8	1400	15.70	1400	K10
W44	95.6	4.4	0	0	0.8	1400	15.70	1400	K10
W45	95.5	4.5	0	0	0.8	1400	15.70	1400	K10
W46	95.4	4.6	0	0	0.8	1400	15.70	1400	K10
W47	95.3	4.7	0	0	0.8	1400	15.70	1400	K10
W48	95.2	4.8	0	0	0.8	1400	15.70	1400	K10
W49	95.1	4.9	0	0	0.8	1400	15.70	1400	K10
W50	95.0	5.0	0	0	0.8	1400	15.70	1400	K10

Information You often get:

- An idea of the chemistry
- Average grain size
- Transverse rupture strength
- Density as g/cm³
- Hardness as HRA

Information you rarely, but sometimes get:

- Compressive Strength KN/mm²
- Young's Modulus
- Poisson's Ratio
- Coercive Force KA/m
- Electrical Resistivity
- Thermal Conductivity W/m K
- Thermal Capacity J/kg K
- Mean thermal expansion coefficient

21 Measures of Carbide Strengths (Short Version)

1. Density
2. Hardness HRA and HV (Rockwell Hardness on the A Scale and hardness on the Vickers Scale)
3. Abrasion resistance
4. Young's modulus of elasticity E (Measure of the stiffness of an elastic material)
5. Modulus of rigidity G (Shear Modulus – shear stress to shear strain)
6. Poisson's ratio [pwa-sawn] (How much does it bulge out the sides when you press on the ends.)
7. Transverse rupture stress (Breakage under slow push)

8. Compressive strength (Push on each end until the middle breaks)
9. Tensile strength (Pull on each end until something breaks)
10. Impact strength (Hit it with a hammer)
11. Fracture toughness (Put a crack in the part, then apply force until the crack runs out)
12. Fatigue strength (Count the number of flexes until it breaks – metal fatigue)
13. Thermal expansion coefficient (How fast does it grow when heated)
14. Thermal conductivity (How fast does it conduct heat?)
15. Thermal capacity (How well and fast does it heat up)
16. Magnetisation coercive field strength or coercive force (How well does it accept magnetisation)
17. Magnetic permeability (How well does it react to magnetism)
18. Magnetic saturation (How much magnetism will it take)
19. Electrical resistivity (How well does it conduct or resist electricity)
20. Corrosion resistance (Susceptibility to chemicals)
21. Average grain size (very average – often used to mislead)

If you noticed that the measures of carbide strength do not match the way carbide fails then you are doing it right.

Mother In Law

We were dressed and ready to go out for the New Year's Eve Party. We turned on a night light, turned the answering machine on, covered our pet parakeet and put the cat in the backyard.

We phoned the local cab company and requested a taxi. The taxi arrived and we opened the front door to leave the house.

As we walked out the door, the cat we had put out in the yard, scooted back into the house. We didn't want the cat shut in the house because she always tries to eat the bird.

My wife went on out to the taxi, while I went back inside to get the cat. The cat ran upstairs, with me in hot pursuit. Waiting in the cab, my wife didn't want the driver to know that the house would be empty for the night, so she explained to the taxi driver that I would be out soon, saying 'He's just going upstairs to say Goodbye to my mother.'

A few minutes later, I got into the cab. 'Sorry I took so long,' I said, as we drove away. 'That stupid bitch was hiding under the bed. I had to poke her ass with a coat hanger to get her to come out! She tried to take off, so I grabbed her by the neck. Then, I had to wrap her in a blanket to keep her from scratching me. But it worked! I hauled her fat ass downstairs and threw her out into the back yard! She'd better not shit in the vegetable garden again!'

The silence in the cab was deafening.

Driver's License

A friend of mine was sitting on a lawn sunning and reading, when he was startled by a fairly late model car crashing through a hedge and coming to rest on his lawn.

He helped the elderly driver out and sat him on a lawn chair. "My goodness" he exclaimed, "you are quite old to be driving!"

"Yes" he replied, "I am old enough that I don't need a license. The last time I went to my doctor he examined me and asked if I had a driving license. I told him 'Yes' and handed it to him. He took scissors out of a drawer, cut the license into pieces and threw them in the wastebasket."

"You won't be needing this anymore", he said. So I thanked him and left."

Super "C" Carbide Grade

Tougher than C1 - Better wear than C3
What Makes Super C Tips Truly Superior

1. Superior Abrasion Resistance - Abrasion or straight wear is countered by smaller, better grain size.
- 2 & 3. Superior Adhesion and Diffusion Resistance (corrosion and chemical attack) Super C grade of carbide has an extremely fine structure so there is very little binder presented to the material being cut. This, combined with the special metallurgical formulation the Super C binder (hint - it's not just plain Cobalt) creates an extremely wear and corrosion material for use in wood, plastic or non-ferrous metals.
4. Superior Fatigue Resistance

And People Really Like Them - Call Today To Try Them - Most Sizes Readily Available

Super C Hardness (HRA) T.R.S. (psi)
92.2 - 92.4 530,000 +

Typical C2 values	Hardness (HRA)	T.R.S. (psi)
C2	92.1	334,000
C2	91.8	334,000
C2	91.5	377,000
C2	90.4	435,000

Typical C Values	Hardness	T.R.S. (psi)
C1	89 - 92.4	350,000 - 360,000
C2	91.2 - 92.9	250,000 - 400,000
C3	91.4 - 93.6	270,000 - 350,000
C4	89.6 - 93	260,000 - 450,000

Sawmill Grade Tips

- * Transverse rupture strength well above 500,000 psi.
- * Rockwell A hardness above 92
- * Alloy binder for corrosion resistance
- * Grain structure to inhibit both crack initiation and crack propagation
- * Micro grain or mixed grain for superior wear

Carbide Processors, Inc.
800 346-8274
sales@carbideprocessors.com

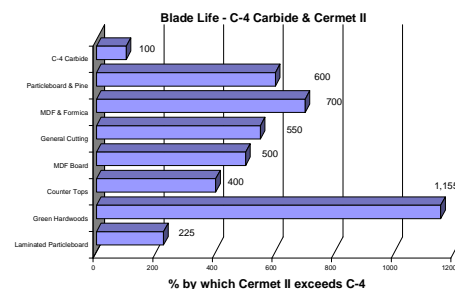


Cermet II® 8 days instead of 5 in MDF

Three weeks and three full loads of double side melamine laminate instead of 1 week and 1 load with carbide

1. 5 blades with standard C-4 carbide cutting 45 lb. single and double sided vinyl-laminated particle board
* Cermet II - 15,088 meters / old grade - 6706 meters for **225% as much run life**
2. KM-16 industrial saw cutting 101.6 mm x 152.4 mm (4" x 6") Green hardwoods, oak, hickory, maple and walnut using 11 blades with standard C-4 carbide
* Cermet II / 462 hrs / old grade - 40 hrs
1,155% as much run life
3. 406 mm (16") 100 teeth cutting countertops
* Cermet II - 4 weeks / old grade - 1 week (4 times) **400% as much run life**
4. 406 mm (16") 80 teeth cutting MDF Board
* Cermet II - 10 days / old grade - 2 days (5 times) **500% as much run life**
5. 305 mm (12") 100 teeth TCG Miter cutting oak, Compressed Fiber Board, Plastic
* Cermet II - 154 hrs / old grade - 28 hrs (5.5 times) **550% as much run life**
6. 305 mm (12") 60 teeth cutting MDF, High Pressure Laminate (Formica)
* Cermet II - 56 hrs / old grade - 8 hrs (7 times) **700% as much run life**
7. G 1060A on Chop Saw cutting Particle Board and Pine Dowel Rods
* Cermet II - 48 hrs / old grade - 8 hrs (6 times) **600% as much run life**

Use Cermet 2 instead of carbide and make your life much easier



Cermet II® Successes

1. Several times the life in a window and door plant.
2. 3 times the life in Corian.
3. 8 days instead of 5 in MDF and we have an even better grade coming.
4. Twice the life in beetle killed Lodge Pole pine.

Benefits You Get

- * Grinds like regular carbide
- * Gives a better edge than carbide
- * Stays sharper longer than carbide
- * Great increase in fracture toughness.
- * More corrosion-resistant
- * Better at high temperatures
- * Cuts faster
- * Cuts faster & longer yet is tougher
- * Longer runs and less downtime.

Report from Marvin Windows

On the saw that we tried. How many times we resharpen a blade before we order new or have retipped we are not sure. Most blades get damaged by hitting something so we have the carbides retipped a lot. How often do regular blades have to be resharpened? We normally have our carbide tipped blades sharpened every week.

The new Cement II blade normally lasts twice as long before it gets damaged. The best so far is four weeks and one and a half million cuts before we changed it out which is four times longer.

Hope this helps and keep up the good work on those tips.
Nathan Hull, Grinderman
Marvin Wood Products

Carbide Processors, Inc.
3847 S. Union Ave.
Tacoma, WA 98409

A Young Brunette

A young brunette goes into the doctor's office and says that her body hurts wherever she touches it.

"Impossible," says the doctor. "Show me."

She takes her finger and pushes her elbow and screams in agony. She pushes her knee and screams, pushes her ankle and screams and so on it goes.

The doctor says, "You're not really a brunette are you?"

She says, "No, I'm really a blonde."

"I thought so," he says. "Your finger is broken."

Hypnotist

It was entertainment night at the Senior Center. Claude the hypnotist exclaimed: "I'm here to put you into a trance; I intend to hypnotize each and every member of the audience."

The excitement was almost electric as Claude withdrew a beautiful antique pocket watch from his coat. "I want you each to keep your eye on this antique watch. It's a very special watch. It's been in my family for six generations"

He began to swing the watch gently back and forth while quietly chanting, "Watch the watch, watch the watch, watch the watch. . ." The crowd became mesmerized as the watch swayed back and forth, light gleaming off its polished surface. Hundreds of pairs eyes followed the swaying watch, until, suddenly, it slipped from the hypnotist's fingers and fell to the floor, breaking into a hundred pieces.

"SH*T!" said the Hypnotist.

It took three days to clean up the Senior Center.

No More Soft Sell



Order Today (800 346-8274) or we turn the dogs loose

Man's Age, as Determined by a Trip to Home Depot

You are in the middle of some kind of project around the house; mowing the lawn, putting in a new fence, painting the living room or whatever. You are hot and sweaty, covered in dust, lawn clippings, dirt or paint. You have your old work clothes on. You know the outfit; shorts with the hole in the crotch, old T-shirt with a stain from who-knows-what and an old pair of tennis shoes.

Right in the middle of this great home improvement project you realize you need to run to Home Depot to get something to help complete the job.

Depending on your age you might do the following:

In your 20's:

Stop what you are doing. Shave, take a shower, blow dry your hair, brush your teeth, floss and put on clean clothes. Check yourself in the mirror and flex. Add a dab of your favorite cologne because you never know, you just might meet some hot chick while standing in the checkout lane. And you went to school with the pretty girl running the register.

In your 30's:

Stop what you are doing, put on clean shorts and shirt. Change shoes. You married the hot chick so no need for much else. Wash your hands and comb your hair. Check yourself in the mirror. Still got it. Add a shot of your favorite cologne to cover the smell. The cute girl running the register is the kid sister to someone you went to school with.

In your 40's:

Stop what you are doing. Put on a sweatshirt that is long enough to cover the hole in the crotch of your shorts. Put on different shoes and a hat. Wash your hands. Your bottle of Brute Cologne is almost empty so you don't want to waste any of it on a trip to Home Depot. Check yourself in the mirror and do more sucking in than flexing. The hot young thing running

the register is your daughter's age and you feel weird thinking she is spicy.

In your 50's:

Stop what you are doing. Put on a hat; wipe the dirt off your hands onto your shirt. Change shoes because you don't want to get dog crap in your new sports car. Check yourself in the mirror and swear not to wear that shirt anymore because it makes you look fat. The cutie running the register smiles when she sees you coming and you think you still have it. Then you remember the hat you have on is from Bubba's Bait & Beer Bar and it says, 'I Got Worms.'

In your 60's:

Stop what you are doing. No need for a hat anymore. Hose the dog crap off your shoes. The mirror was shattered when you were in your 50's. You hope you have underwear on so nothing hangs out the hole in your pants. The girl running the register may be cute, but you don't have your glasses on so you are not sure.

In your 70's:

Stop what you are doing. Wait to go to Home Depot until the drug store has your prescriptions ready, too. Don't even notice the dog crap on your shoes. The young thing at the register stares at you and you realize your balls are hanging out the hole in your crotch.

In your 80's:

Stop what you are doing. Start again. Then stop again. Now you remember you need to go to Home Depot. Go to Wal-Mart instead and wander around trying to think what it is you are looking for. Fart out loud and you think someone called out your name. You went to school with the old lady who greeted you at the front door.

It is Summer



Take Some Kids Camping

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 3847 S. Union Ave.
 Tacoma, WA 98409

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Carbide Saw Tip Sale

**** Limited Quantity**

**Pretinned Tips (also available
 untinned)**

WB 7135	\$.15
WGC 7110	\$.10
WGC 7170	\$.20
WG 7375	\$.30
WDC 7312	\$.37
WEC 7150	\$.26
MFC 7215 C4	\$.30
WFC 7140	\$.35
WFC 7150	\$.37
WFC 7160	\$.38
WFC 7170	\$.40
WFC 7180	\$.42
WFC 7190	\$.44
WFC 7200	\$.47
WFC 7250	\$.56

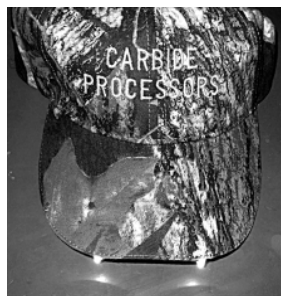
Carbide Strobs (Partial list)

	No Pretin	w/Pretin
ST1130	\$0.57	\$0.76
ST1140	\$0.61	\$0.81
ST1150	\$0.66	\$0.86
ST1160	\$0.70	\$0.90
ST1170	\$0.74	\$0.94

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