

range Bytes

Volume 47 No 12

December 3, 2023

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NOCCC meetings for Sunday December 3, 2023

MAIN MEETING .

President Robert Strain has promised a presentation on a piece of software that members should find useful.

Special Interest Groups (SIGs) & Main Meeting Schedule

9:00 AM – 10:30 AM

Beginners Digital Photography**Science 129**

Questions and Answers about Digital Photography

Linux for Desktop Users.....**Science 131**

Beginners' Questions about Linux

10:30 AM – 12:00 PM Noon

3D Printing**Science 127**

Questions and Answers about 3D printing

Advanced Digital Photography...**Science 129**

Questions and Answers about Digital Photography

Linux Administration**Science 131**

More topics about the Linux operating system

Mobile Computing.....**Science 109**

We discuss smart phones, tablets, laptops, operating systems and computer related news. **We need a new leader.**

12:00 PM Noon – 1:00 PM

3D Printing..... **Science 127**

Questions and Answers about 3D printing

PIG SIG **Irvine Courtyard**

Bring your lunch. Consume it in the open-air benches in front of the Irvine Hall or join the group that goes to the student cafeteria. Talk about your computer and life experiences.

1:00 PM – 3:00 PM Main Meeting

See above

..... **Science 131**

3:00 PM – 4:00 PM

Board Meeting.....
Science 129

Verify your membership renewal information by checking your address label on the last page. If it is not right, let the treasurer know.

Mark your calendars for these meeting dates

2023: Dec 3,

2024: Jan 7, Feb 4, Mar 3, Apr 7, May 5, Jun ?

Coffee, cookies and donuts are available during the day in the Irvine Hall lobby.
Food and drinks need to remain outside the Irvine Auditorium.

“Friends Helping Friends”
since April 1976

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Again, verify your membership renewal information by checking your address label on the last page

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Special email addresses
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Our Website
WWW.NOCCC.ORG

Reminder: Membership expiration dates are based on the date that you joined the club. **Example**, you joined the club in October of 2022. That means that in October 2023 you should pay your membership dues. In the address label area of the Orange Bytes is your join month/expiration month.

Reprint Policy

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Editor's Report

ODDS and ENDS

I recently ran across an article about thermal paste on www.Tomshardware.com. The topic was how a tube of 20 year old thermal paste compared to a current offering from the same company. It reminded me of some of the advertising claims battles of years past. It prompted me to look in one of my parts drawers. Sure enough, I found a syringe of Antec Formula5, "Silver Thermal Compound." It was still in the original plastic baggy along with the Fry's Electronics receipt for \$6.99 dated 07/12/99. Removing the sealing cap and carefully applying pressure caused some of the black/grey compound to come out of the syringe. It seemed to still be about the same viscosity that I remembered. Although it did not say, being based on silver, it is probably electrically conductive. The article:

Thermal Paste

Does thermal paste expire? 20-year-old TIM tested - no degradation seen, but poor compared to modern products

A syringe of ancient thermal paste has been tested by [Igor's Lab](#). With some surprise, the hardware testing stalwart reports that Arctic Cooling's Silicone Paste worked just as well as a factory fresh industrial alternative with a similar formulation. However, Wallossek's testing clarified that modern PC thermal pastes aimed at PC enthusiasts perform much better.

A PC hardware dealer in Germany discovered some 20-year-old thermal paste at the back of a drawer and decided to send it to Igor's Lab. Wallossek looked at the Intel Pentium 4-era paste from Arctic Cooling and thought it was like finding an old can of soup – but one that “can't spoil.” Without much hesitation, testing began.

The initial finding was that, since the syringe had a good seal, the paste squeezed out as it should, with an acceptable consistency. The ingredients also piqued Wallossek's interest. According to the packaging, Arctic Cooling's old Silicone Paste featured 50% silicone, 20% carbon, and 30% metal oxide. This required verification, decided the veteran hardware tester and ex-Tom's Hardware writer. So, he employed a laser-induced breakdown spectroscopy device to analyze the paste's ingredients. Wallossek reckons that the ingredients on the label were bunk, as the analysis tool reported the paste was made from 50% silicone and 50% zinc oxide. He concluded the mention of carbon on the packaging was solely for marketing purposes...

Moving onto the comparison testing, Igor's Lab noted that a TCTG-4.0 from MCT, an industrial “durability-focused reference paste,” performs very similarly to the antique Arctic Cooling paste. This indicates that little, if any, degradation occurred during the old paste's slumber at the back of the PC hardware dealer's drawer.

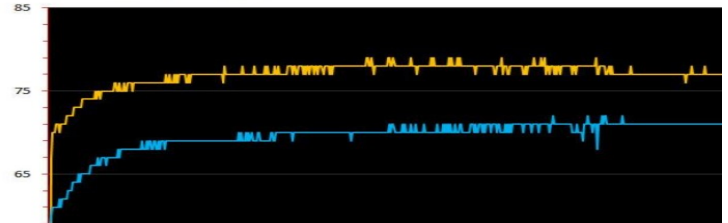
The Pentium 4 era paste significantly underperformed compared to a modern thermal paste, though. Wallossek tested an Intel Core i9-13900K with both the old Arctic paste and the “modern, good” Alphacool Apex thermal paste. The graph of the comparative test run (below) shows a delta of six degrees Celsius, representing 20 years of progress in thermal paste formulation. It's not astonishing, but a very welcome improvement.

From the above tale, we might conclude that thermal

paste packaging that features ‘use by’ or ‘best before’ advice from manufacturers might be wise to ignore. This may only apply if the paste is kept well, like in a sealed tube in a dark, cool drawer. I just checked my drawer and found three partly-used thermal paste syringes, and none of them seemed to have any ‘use by’ date indicated on the packaging.

For more thermal paste comparisons, look at our colossal roundup in our “Best Thermal Paste for CPUs 2023: 90 Pastes Tested and Ranked” feature.

Temperatures in °C (less is better)



A LITTLE HUMOR

This all reminds me of the unfortunate story of the British entrepreneur John Tate and his compasses. Sometime back in the mid-1800s a small-time British manufacturer named John Tate decided to go into the business of making compasses. He set up a factory, installed the machinery, hired some workers, and began turning out his first compasses. He had just completed his first batch of 500 compasses when someone finally pointed out that he had forgotten to mark which end of the compass was north. The compasses worked fine; you just didn't know which way was north and which was south. Needless to say poor Mr. Tate's compasses didn't sell; Tate went bankrupt, the factory closed, and the workers were laid off. But his memory lives on, since that time any compass where you're not sure which end is north and which is south has been known as a 'Tate's compass'. The moral of the story, of course, is that: He who has a Tate's is lost.

North Orange County Computer Club

**Dr. Donald Armstrong
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Fullerton, CA 92653**

To All Members:

The line above your mailing address now shows your joindate. Please use your join **month** to choose when to renew your membership.

Dated Material – Please deliver ASAP

Membership Level (\$)	1 Year	3 Years
Individual Member	35	90
Each Additional Family Member	15	40
Full-Time* Enrolled College Student	20	
Enrolled High School Student	15	

*Minimum 12 Semester Hours

Business Member + Ad (Business Card)	180
Business Member + Ad (¼ Page, ½ Page)	465, 800
Business Member + Ad (Full Page)	1,475
Contributing Member	75
Supporting Member	100
Advocate Member	250
Patron Member	500

Directions to the NOCCC meeting location



Enter CA-55 N (Costa Mesa Freeway) crossing Interstate 5 toward Anaheim/Riverside for 9 miles. *Notice freeway and street signs stating "Chapman University."* Exit toward E Chapman Ave. Turn right onto N Tustin St. Turn left onto E Walnut Ave.

1) Turn left past N. Center St. for the **best place to park** in the underground parking structure (Lastinger under the sports field). Pay the small fee (\$2) to park Ask members or help@noccc.org about parking details, restrictions, and our price break!

2) Turn left onto N Center St. On the right is the Hashinger Science Center, 346 N Center St. Orange California. Parking on the University side is free. Parking on the residential side is a city violation that may cost you a tow away and a ticket!