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The SAS Aluminium Times

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www.specialistaluminium.co.za

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Letter From Editor

Welcome to our Newsletter

2021 is shaping up to be a year of economic recovery but it's proving to be a tough grind back up to pre-Covid levels.

Our newsletter - the SAS Aluminium Times - spotlights what is happening in the aluminium world – here in South Africa and around the world. We tap into our international contacts to bring you the very latest.

Colin Little and Kent Bell – SAS founders. On standby 24/7 to help you with your sourcing needs

Why aren't you selling more aluminium?

Maybe it's because you haven't read the SAS Aluminium Times from cover to cover..... 4 pages – you CAN do it!

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The NEW NORMAL – high prices, constrained supply, freight costs stay high

By: Kent Bell & Colin Little

Off the top, demand simply is outstripping supply as the world inches toward a post-pandemic scenario. But that's been compounded by sky-high shipping and freight rates, supply chains still disrupted more than a year after COVID-19 first emerged, and import tariffs that continue to redraw traditional trade routes more than three years after being announced. Scrap recycling also has been affected by reduced generation and collection, impacting the availability of metal inputs for casthouses globally.

A lack of clarity regarding the longevity of Section 232 tariffs under the Biden presidential administration—as well as quotas for primary aluminium ingot on Canada and other suppliers—has caused uncertainty throughout the market. Add to this the anti-dumping tariffs put in place against Chinese mills by the EU and supply chains in major markets are under serious pressure.

Demand for extrusion billets has been strong due to 2020 construction projects, delayed during the pandemic, restarting alongside new projects given the go-ahead as COVID restrictions ease. The Platts US aluminum billet upcharge was assessed at an all-time high of 22 cents/lb on April 15, having surpassed the previous high of 17 c/lb reached in May 2018.

Some expect the auto industry, hampered in recent months by a global semiconductor shortage, to see a surge in demand too, as lockdowns are lifted in a number of regions and consumers, cooped up during quarantine, emerge with money saved to buy new cars. A good number of those new vehicles are likely to be electric-powered, which rely heavily on aluminium and other metals for their batteries.

South Africa can't dodge these global dynamics. The Hulamin rolling mill, South Africa's extruders, scrap recyclers, distributors and end-user customers all have to adapt to rapidly rising prices and to severely constrained supply dynamics.

If you have any questions or comments, we'd love to hear from you – email us on **info@specialistaluminium.co.za** and we'll get back to you

Aluminium Pricing Trends

By: Colin Little

As demand outstripped supply, the LME aluminium price kept rising to a high of over 2550 $/t on 10 May before the bubble was pricked by Chinese government threats against hoarders and speculators of commodities. The price then pulled back to just over 2300 $/t.

The SHFE price, the reference price in the Chinese market, remained much higher than the LME and continues to put margin pressure on Chinese semi-fabricators.

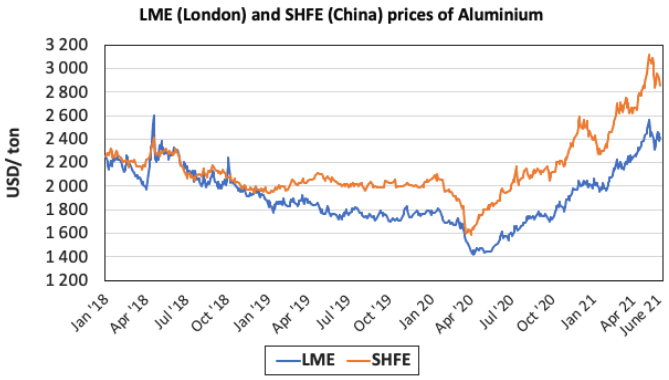
And then there is the mysterious world of aluminium premiums – the secret weapon of an industry that loves to confuse customers. So what exactly are aluminium premiums? Aluminium premiums represent the cost of buying metal on the physical market on top of the London Metal Exchange cash contract. These premiums are tracked and reported on by Metal Bulletin, Platts etc and there are different premiums in different parts of the world. The USA "mid-west", the "duty paid Rotterdam," and the "Japanese" are some of the main premiums.

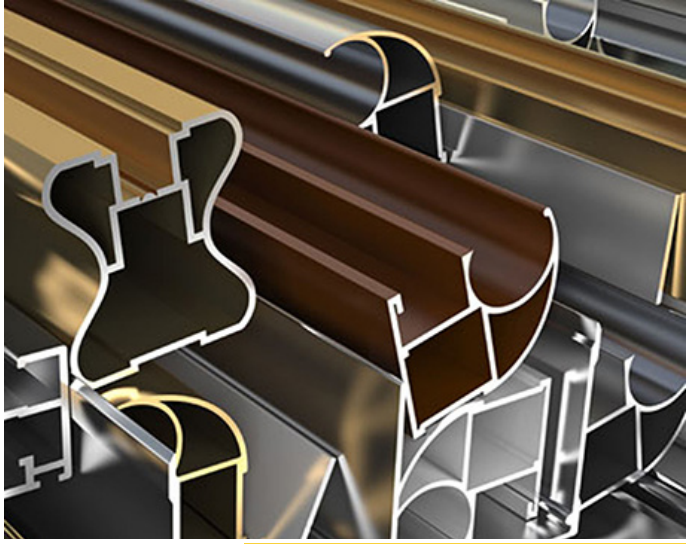
Hulamin's "MTP" is unique to South Africa. It bundles the LME, a selection of premiums and the R/$ exchange rate into a single "monthly transaction price". The LME and the R/$ are the average of the prior month.

The volatility of aluminium premiums has been by far the biggest and most important development in the aluminium market since the global financial crisis. The call for more hedging tools to mitigate risk started in 2014 when market participants argued that European aluminium premiums encompassed too large of a portion of the all-in aluminium cash exchange price.

Numerous factors can affect premium levels including supply and demand issues, LME spreads, warehouse queues, raw material costs and financing.

Premiums usually track the LME – more demand equals higher LME and higher premiums. Current protectionist trade policies create additional volatility.





"At its core, bitcoin is a smart currency designed by very forward-thinking engineers. It eliminates the need for banks, gets rid of credit card fees, currency exchange fees, money transfer fees, and reduces the need for lawyers in transactions... all good things."

– Peter Diamandis

What's happening to extrusion supply in SA?

By: Colin Little

Aluminium extruders in South Africa were helped by ITAC in 2016 when they implemented tariffs of 15% on all imports except from the EU. Hulamin, however, closed their Olifantsfontein plant in 2019. Wispeco, on the other hand, has invested to increase capacity.

Veer Aluminium is one of two new extruders in town. Veer has bought the Olifantsfontein site and plant and is starting the presses up.

As reported in Engineering News in April, the first phase of re-establishing the extrusion operation is well under way and is expected to come on line at the end of the second quarter.

The other new extruder is Aluecor in Vereeniging. This is also a restart of a press that closed down in 2020. The press has had a number of owners over the years and the new team in place is targeting service to give them an edge. "We have made leading levels of customer service our primary focus as we partner with and integrate into our customers' value chains." - Ross Boyd, Managing Director of Aluecor.

Right now extrusion supply is tight but customers should soon benefit from an increase in choice for their extrusion supply.

NEW – Green Aluminium.

What is it and what does it mean for South Africa?

By: Colin Little

Consumer facing businesses like auto companies, smart phone makers and aluminium window suppliers all want to polish up their green credentials and promote themselves as the saviors of our planet with low carbon footprint products.

And so they want their aluminium to come from hydro power or wind/solar driven smelters and failing that then from recycled scrap. Of course, they don't want to pay a higher price but recent industry market research shows that the suppliers are getting up to 15$/t more. Yet, this is the same aluminium they were buying before; demanding "green" limited their supply so basic economic theory applies.... the price goes up.

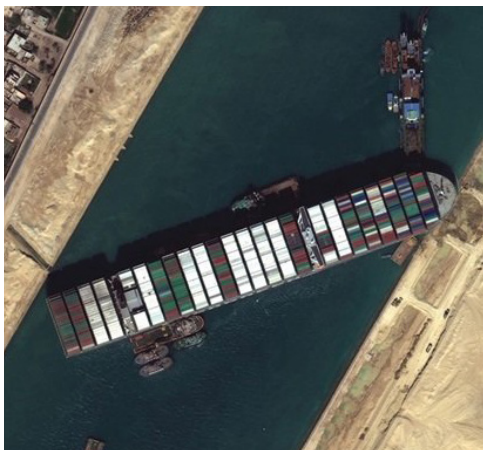
The aluminium industry, in Europe primarily, has responded to its customers with ASI accreditation of aluminium. ASI, the Aluminium Stewardship Initiative, audits the full supply chain and if carbon emissions are below 4t of CO2 per ton produced then the supplier receives "green" accreditation.

Primary aluminium produced with electricity from coal-fired power stations (e.g. the Hillside smelter in Richards Bay from the Eskom grid) has emissions of around 18t of CO2 per ton of aluminium produced.

Aluminium from scrap should be around 2t of CO2 per ton – but note that very few semi-fabs are made from scrap. It's usually a blend of primary and scrap and internal plant scrap doesn't count.

This story has a long way to go ..... the greenies are already looking at a carbon tax on aluminium. Europe will lead it. Energy-intensive industrial processes like steel, aluminium and cement manufacturing make up a significant chunk of carbon emissions. A carbon tax as crafted in the EU's Carbon Border Adjustment Mechanism (CBAM) is seen as a major plank in shutting out or penalising producers outside the EU with high carbon products.

(SOURCE: "METALMINER")



The Freight Markets

– still so high?

By: Colin Little and Kent Bell

When the EverGreen's container mega-ship got stuck in the Suez Canal for 7 days in late March, it created a disruption in global logistics that has continued through to June.

The container freight market was already tight and prices are up around 350% from 2019 pre-pandemic levels. Rates will turn but, like the EverGreen ship, they are staying stuck at high levels and will only reduce as the world normalises.

Fitch Ratings commented as follows in early May: "We believe that the shipping rates rally has peaked, having roughly quadrupled year-on-year on the Asia-Europe route and doubled on the Asia-North America route. We anticipate unchanged spot rates in 2Q21 due to a strong economic recovery and expect them to only start to gradually normalise from 2H21. Still, 2021 full-year results of container shipping companies are likely to be strong as high spot rates will flow through to contracted rates, while most investments in new vessels will be due after 2021.

"Seaborne trade will take longer to adjust to a 'new normal' and will continue to face operational inefficiencies in the medium term. However, we view current spot shipping rates as unsustainable and expect them to fall once disruptions from port congestions and the container shortage are resolved. "

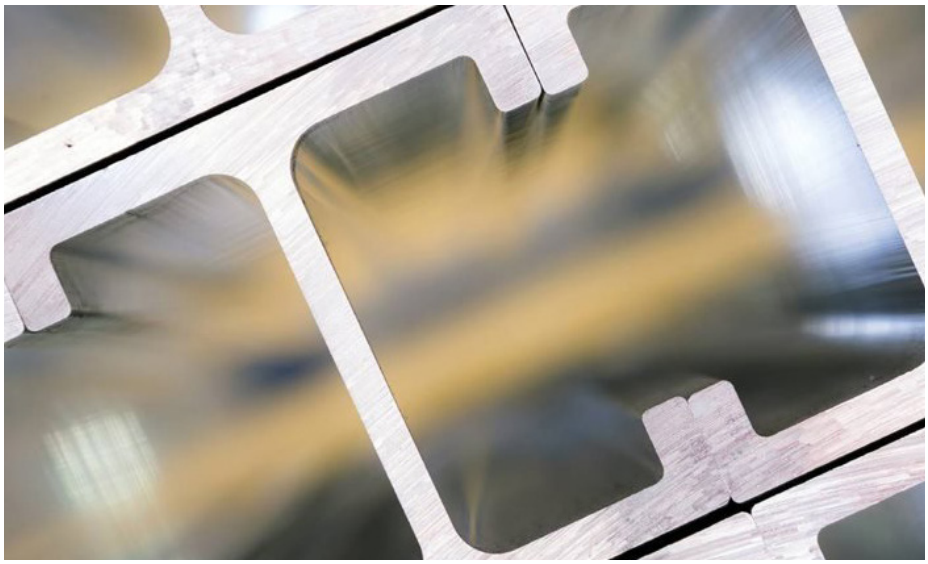
LET'S HOPE THEY ARE RIGHT.

"Time waste differs from material waste in that there can be no salvage. The easiest of all wastes and the hardest to correct is the waste of time, because wasted time does not litter the floor like wasted material."

– Henry Ford

Fabrication Corner

By: Kent Bell & Colin Little



BENDING – alloy or temper?

Don't forget the temper when it comes to optimising the bending ability of an aluminium alloy. Temper is as important as the alloy.

For non-heat-treatable 3xxx and 5xxx alloys, O-temper is the easiest temper to bend in.

6xxx, 7xxx and 2xxx heat-treatable alloys should if possible be bent in T4 condition, as this has a lower yield strength. However, there is a drawback. Yield strength in the T4 condition varies over time, due to natural ageing, a slow hardening process that occurs over time.

Although the variation in yield strength is small over short times, this might cause springback variation in some bending processes. So, in some cases, bending in T6 could be a better option.

FOUR FAVOURITE BENDING ALLOYS

3003. In most cases, this is probably the best alloy for bending. You get average strength, very good cold workability and high elongation. 3003 also offers one of the biggest differences between yield and tensile strength.

5052. You get high elongation (not as high as 3003, however) and a solid difference between yield and tensile strength. You also get high strength when compared with other non-heat-treatable grades and outstanding corrosion behaviour. When annealed, it beats the 3003 alloy in formability.

5083. Not far behind 5052 comes this one, its big brother, and a classic alloy for marine applications with good corrosion resistance and weldability. There is some variation with regard to temper, but if you chose H111, H112 or O temper you should be fine.

6061 and 6082. These are versatile heat-treatable alloys which, when annealed, offer a satisfactory difference between yield and tensile strength, and good elongation. Their bending ability will decrease, however, when you move to T4 and T6 tempers. Recommendation - bend in T4 condition and then heat treat to T6 if this is possible.

"Am I the only one around here who listens to METAL to calm down?""

Anonymous

FAAQ'S

Frequently Asked Aluminium Questions

What is anodised aluminium?

When aluminium is anodised, the process thickens the naturally occurring protective layer of aluminium oxide on the surface. This creates a satin type finish.

Which types of aluminum anodise the best?

What a great question! For extrusions 6063 and 6463. For sheet and plate, 1050 is commonly used in South Africa but 1200 and 3003 are much better options for consistency and brighter finishes.

Does anodising increase resistance to wear?

Most definitely. Anodised aluminium is better than mill-finish at resisting nicks and scratches and provides a more durable finish.

Does anodising increase corrosion resistance?

Big time! The aluminium oxide layer of up to 25 micron is largely chemically inert and does not corrode in the environment. SAS has seen aluminium sheet that is still doing its job on buildings in Walvis Bay after 40 years – and that's a very corrosive environment.

How are anodised colours created?

The tiny pores in the anodised surface are ideal for dyes to be sealed in. The coloured dye is now part of the oxide layer and won't fade or peel off.

Does anodising affect the strength of the aluminium?

No, it does not. Anodising temperatures are too low to have any impact on the temper of the alloy.

What is hard anodising?

This is a branch of normal anodising where process conditions have been pushed in a certain direction to achieve significantly harder, thicker, denser oxide layers. Applications involve resistance to wear, corrosion, temperature effects. High quality cookware is often hard anodised.