ROSS & CATHERALL

Mitigate the effects from the perfect storm!

Offset the challenges of your reduced revert volumes & higher element prices

Turning Metals into Motion

Ross & Catherall…

…are a leading supplier of vacuum melted nickel and cobalt based superalloy cast bar stick

…supply alloys to aerospace, IGT, space exploration, and additive manufacturing

…have major OEM and industry leading cast house approvals for Aerospace and Gas Power Turbine, Space and Additive Manufacturing

…have a global supply footprint for sales, technical support and deliveries

…have a long history and strong capability of alloy development and technical support

…have established alloy revert chains to ensure cost-effective melting solutions

…have established programmes for investment in technical excellence, people, capability and plant capacity

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Reduce impacts from element increases – utilise your revert!






* OEM specification approval dependent

- Stabilise Your Supply Chain with Sustainable Revert Solutions
- Trade tariffs have introduced volatility in the availability and pricing of critical elements used in superalloys.
- Our solution? Maximise the use of revert, up to 70%* in your melt.
- Revert isn't just scrap, it's a high-value resource containing essential elements like Hf, Ta, W, Ni, and Co. Derived from finished cast components, revert retains the exact composition needed for superalloy cast bar production.
- Our in-house revert processing facility enables a closed-loop system, using customer supplied revert to meet precise specifications and final compositions. This not only supports sustainability but also helps mitigate the impact of export restrictions, such as the tightening supply of Hafnium (Hf), which is driving up global prices.

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CIRCULAR ECONOMY OF FOUNDRY REVERT

More furnace options to maximise your revert

- With 8 furnace options and a strong commitment to quality, technical expertise, flexibility, and strategic location, our melting capabilities and capacity ensure your order is delivered on time and in full
  - Remove the concerns of revert availability by utilising our multiple capacity furnace options
  - Choose from 500kg (1,100lbs), 2500kg (5500lbs), 2800kg (6,200lbs), 4000kg (8,800lbs), 6000kg (13,200lbs), 7200kg (15,800lbs)
  - World's largest selection of VIM furnace capacity options utilising the latest melting technology
- Revert is a key cost driver; our flexible furnace capacity options enable you to determine the most cost-effective ratio to meet both your budget and delivery requirements
  - In-house revert processing ensures “closed loop” security with rapid conversion into new alloy
- To support growing market demand across all industry sectors, we have expanded our alloy melting and processing capacity
  - Furnace technology configured for the highest quality masteralloy production of highly specialised nickel and cobalt-based superalloy cast bar stick - supplying 21st century alloys today!

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Various Melting options to maximise your available revert

Furnace capacities kgs (lbs)	Bar Diameters mm (inches)
500 (1,100)	75 (3"), 88 (3½"), 100 (4"), 125 (5"), 150 (6"), 175 (7")
2 x 2800 (6,200)	
4000^ (8,800)	
7200 (15,800) *	

ˇ Furnace yields approx. +/- 10% of stated capacity, * 3 x 7200kg & 6000kg furnace bodies ^ New furnace commissioned Q4 2023

With eight VIM furnaces and a dedicated revert processing cell, we are fully equipped to meet your diverse alloy volume requirements—delivering a truly sustainable circular economy for your revert stream




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Use your revert to reduce costs

- Revert is a valuable input containing high value elements:
  - **Hafnium (Hf), Tantalum (Ta), Tungsten (W), Nickel (Ni), Cobalt (Co)**
- Its strategic use helps manage costs and raw material availability

- Our flexible furnace options allow you to optimise:
  - Cost efficiency
  - Delivery timelines
- Adapt the melt sizes to meet both your budget and production needs

- In-house revert processing ensures:
  - Closed-loop material security
  - rapid conversion into new alloy
- Minimises risk and maximises turnaround speed

- Eight furnace options support:
  - On-time, in-full delivery
  - High quality standards
  - Technical expertise
  - Strategic location

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Insufficient revert will delay your scheduled melt slots

- Review, and if required, amend your revert ratios to avoid rescheduling of your confirmed melt date
  - If we do not receive your revert for the ratio requested on your PO, we cannot sequence the melt!
  - Revert not delivered “on-time” will result in missed slots, and rescheduling of the cast to meet the next available melt sequence
    - Melts cannot be rescheduled until your revert^ arrives on site and is prepared for melting
    - This could result in several weeks delays and rescheduling costs for melting from the advised date
- To overcome this reduced revert generation you must consider
  - **Increasing the virgin* content to allow the revert volume to normalise**
  - **Utilise one of our 8 furnace capacity options to match your revert availability**

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*This will result in a cost review (requote) and rescheduling costs
^ As per revert specification document

Actions for POs with insufficient revert

- If revert material is not available in sufficient quantity to fulfil the confirmed purchase order, for any alloy, customers should promptly issue a revised purchase order* to Ross & Catherall Ltd. reflecting one of the following options:
  - a)* Utilisation of a smaller furnace while maintaining the original revert ratio;
  - b)* Adjustment to a revised ratio incorporating a higher proportion of virgin material; or
  - c)* Authorisation to proceed with a melt using virgin material only
- All the above options permit customers to choose the most effective method to ensure their orders are manufactured and delivered in full
- With eight VIM furnaces capacity options and a dedicated revert processing cell, we are fully equipped to supply the options outlined above
- Revert^ must be delivered to and available at Ross & Catherall no less than twelve (12) working days prior to the scheduled melting date

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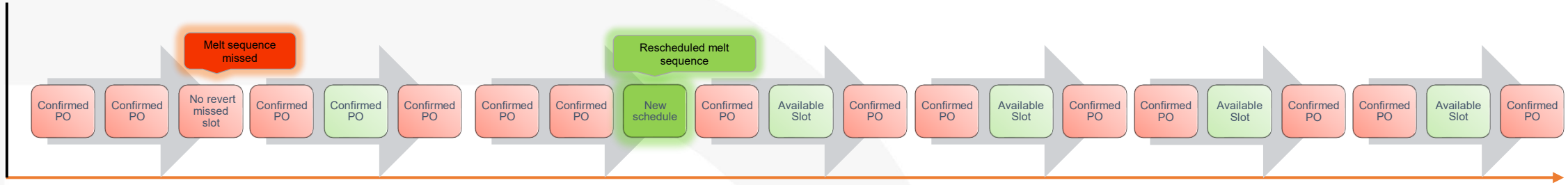
*New quotations will be issued based on market rates and furnace costs
^ As per revert specification document

Revert delays impact our melt plan and your alloy delivery!



Melt schedule

Impact of delayed/insufficient revert to production

- Revert bearing melt ratios must have the required revert delivered to R&C on time^ to allow sorting & cleaning to make “furnace ready” to meet the melt chemistry sequencing schedule
- Revert not delivered “on-time” will result in missed slots, and rescheduling of the cast to meet the available sequencing, this has an impact to our production, and your facility in terms of revised element costs*, your alloy manufacture delayed - as such the lead-time could increase significantly to meet the melt schedule
- If the revert is not available for a “typical” ratio, amend the ratio, or chose an alternative **furnace** size option, to meet your delivery requirements
  - Revised revert ratio melts **WILL NOT** impact the melt chemistry sequencing schedule!
  - Insufficient revert **WILL** impact the schedule as the order cannot be melted or sequenced!

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*Ross & Catherall reserves the right to apply rescheduling costs should customers fail to provide adequate revert material
^ As per revert specification document

In-house Revert Processing - Sustainability is possible using your in-house revert






- Our commitment to sustainability drives us to adopt environmentally friendly practices and reduce our carbon footprint, ensuring that our production processes are as sustainable as they are efficient
  - Customer revert segregated, prepared & cleaned for melting
    - Revert storage “closed-loop” guaranteed
      - Revert ready for use in one of our 8 furnaces

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Elements rising!

Export controls impact prices

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Market Pricing Disconnect

Indices lag real-time movements

- Traditional indices (e.g., LME, Argus Metals) are not reflecting rapid price shifts
- Daily price increases observed across multiple elements
- Example: Hafnium (Hf) surged ~50% in one week

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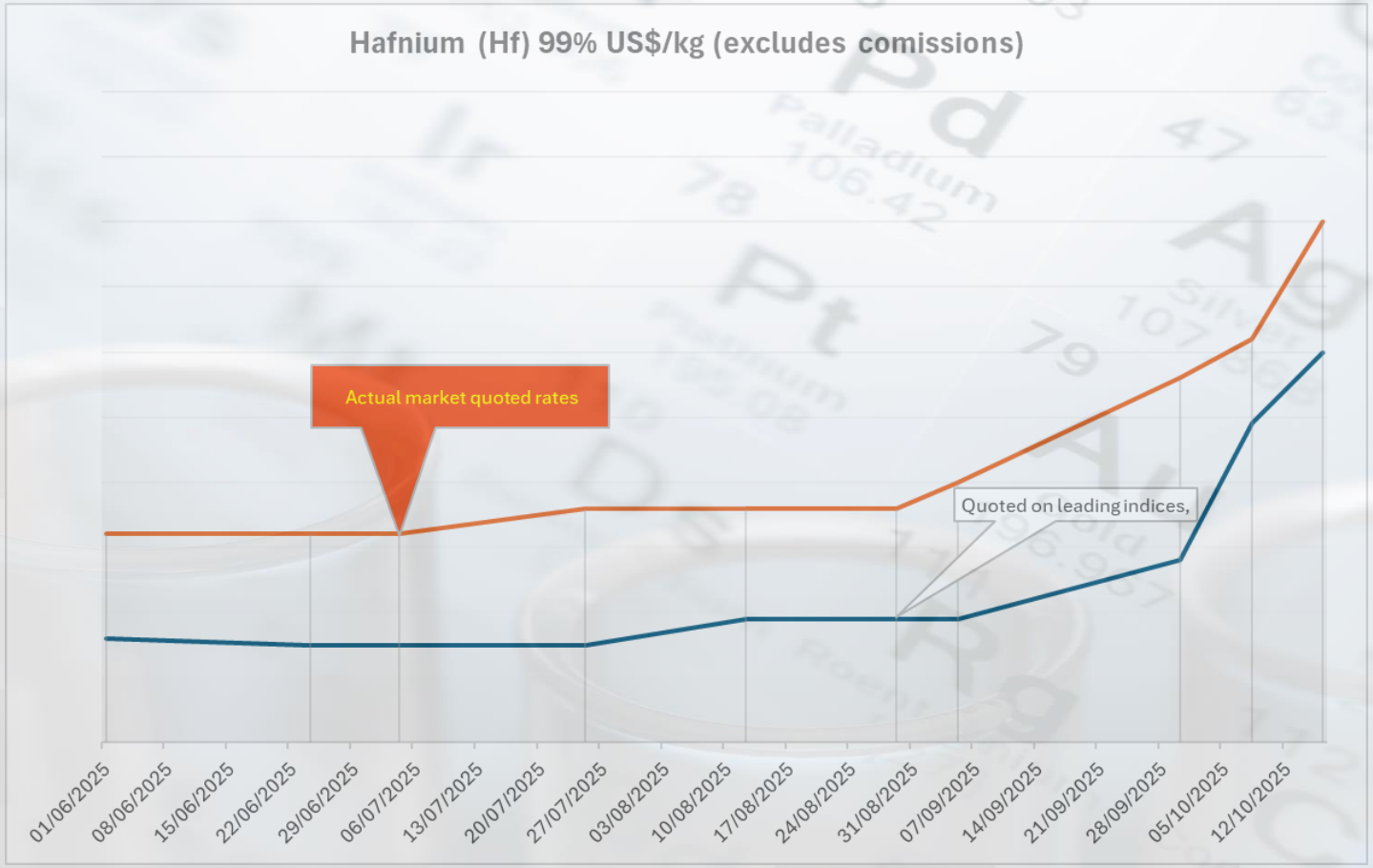
Indices lag real-time movements

Example Hf



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Tariff uncertainty disrupts Minor Metals Markets

- Ongoing tariff uncertainty continues to destabilise minor metals trade
- China remains central to sourcing, processing, and exporting
- End-user requests now required for export approval
  - Delays and rejections common
- Result is **artificial shortages**, even when physical supply exists.
  - Global demand now exceeds available export supply
  - Supply chain impacted
- Export volumes have reduced due to:
  - Threats of further tariffs from 1st November 2025
  - Stricter export controls
  - Additional country specific restrictions

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Secure your 2026 alloy requirements now!

- As demand continues to grow across all **sectors**, Ross & Catherall is well-positioned to support increased alloy volume requirements. Thanks to our **expanded melting and processing capacity**, we can meet rising customer needs with confidence.

- We maintain a **secure supply and stock of elemental materials**, and while our pricing reflects current market conditions, we are not experiencing the same cost pressures as some competitors - thanks to **stable supply chains** and **minimal impact from tariffs**.

- If your alloy volumes are increasing, or if your current supplier is unable to meet your needs, we can help. We have available melting capacity in Q4 2025 and are open into 2026.

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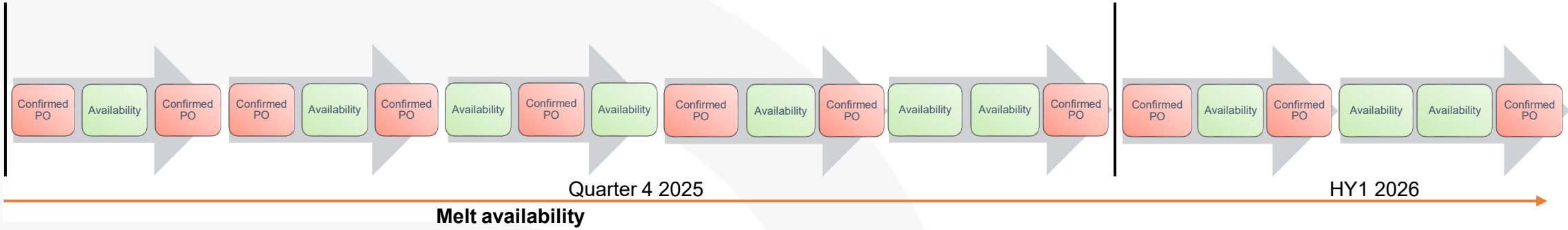
Additional melting capacity introduced



- Customers can utilise the additional melt capacity from our latest 4t furnace, increasing the melt volume range from 500kg (1,110lb) to 7200kg (15,800lbs)
- Some key element prices are rising; trade tariffs are already impacting element cost increases and alloy costs. Secure your future alloy requirements
- Our lead-times for melting to despatch is approx. 4-6* weeks, including “spot orders”
- We continue to remain as proactive as possible, with regards to ensuring your alloy demands are met with increased production hours, however, commitment POs for melting must be provided to “lock-in” melting slots
- Revert containing melts must have the required revert delivered to R&C on time^ to make “furnace ready” to meet the melt date advised. Alternate ratios will be required if revert is not available 2 weeks prior to the confirmed melt date
- Melt slots will be allocated based on first received receipt of PO confirmation

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*based on revert being available and furnace ready
^ As per revert specification document

Superalloy manufacturing excellence

- Vacuum melting from 1968 ✓
- 155 employees
- Over half a century of superalloy melting, development, manufacturing and processing experience ✓
- World's largest selection of VIM furnace capacity options utilising the latest melting technology ✓
- Markets served: Aerospace, IGT, Additive Manufacturing, Space Exploration, and biomedical sectors ✓
- Manufacturers of cast bar stick to the Investment Casting foundry sector ✓
- Long history of product and process development ✓

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Our people are our strength!

- Mastermelt principle melters - continuity of workforce with over 150 years* experience and knowledge
- Senior Management Team - average tenure 10 years at Ross & Catherall, several with over 30 years industry experience
- Technical and Laboratory specialists, many with over 25 years industry experience in superalloy metallurgical development and chemical services
- Established programmes for investment in technical excellence, people, capability and plant capacity







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*based on combined years of service

Ross & Catherall Limited

Superalloy Manufacturing Excellence

- Vacuum melting since 1968
- World's largest selection of VIM furnace capacity options utilising the latest melting technology
- Aerospace, IGT, Additive Manufacturing, Space Exploration and biomedical sectors
- Supplying to the Investment casting and Additive Manufacturing industries
- Over 50-year history of product and process development
- Our expertise adds value to chemical elements to meet customers exacting “chemistries”

SERVING THE GLOBAL INVESTMENT CASTING COMMUNITY FOR OVER 50 YEARS

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