

Boliden Customers

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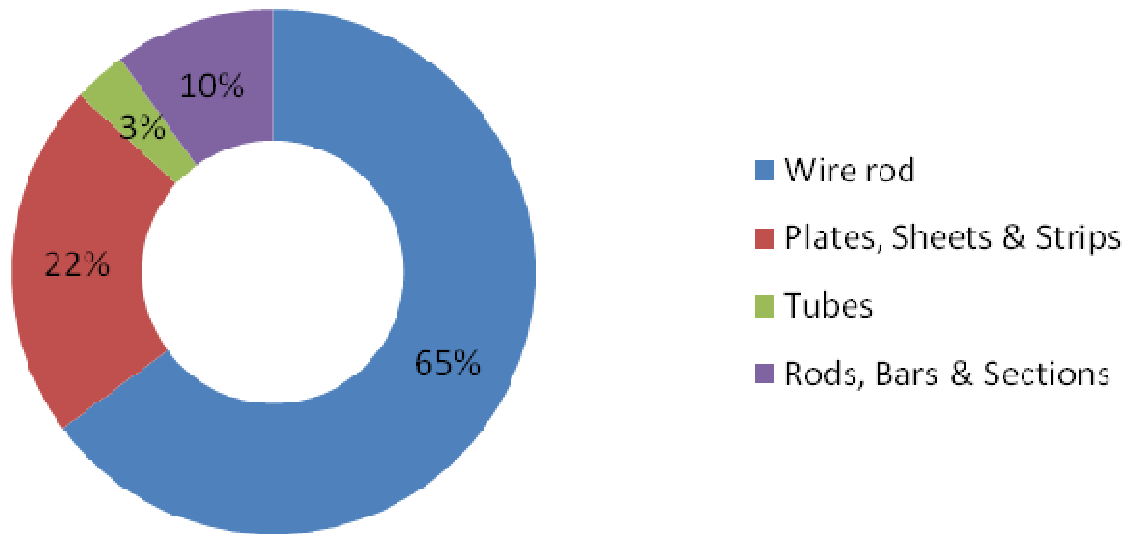
Boliden's Copper and Zinc Customers

Topics

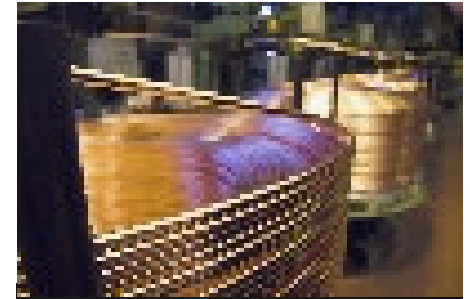
- Our customers
- Demand drivers
- Current customer demand & trends in customer behaviour
- Boliden's competitive edge

Our Customers - Copper

Boliden Sales - First Use*



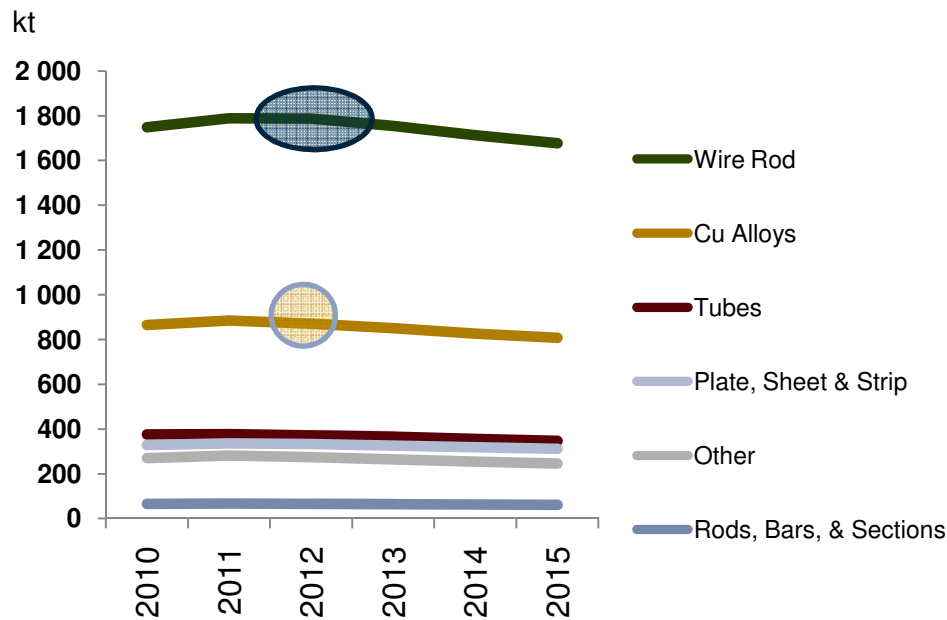
*estimate



Semis output Western Europe 2010-2015

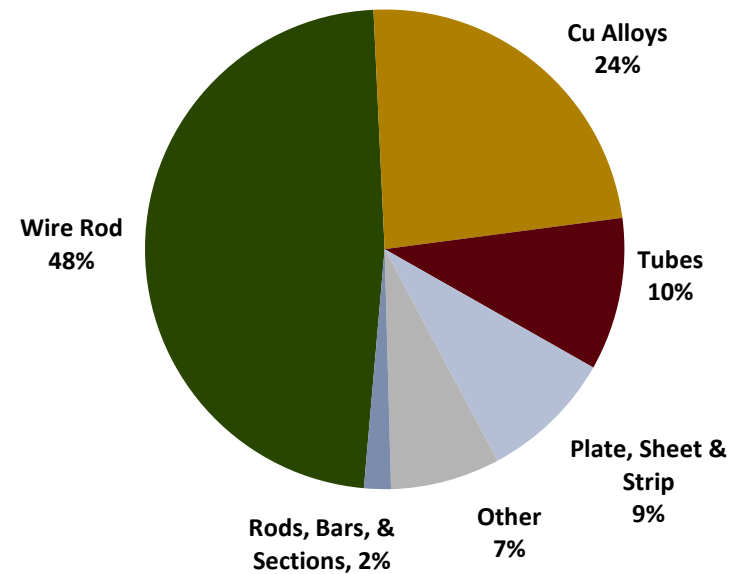
-5,6% (-205kt)

- Peak in 2011-2012 caused by higher output of Wire rod in Germany and Cu alloy products in Germany and Italy.



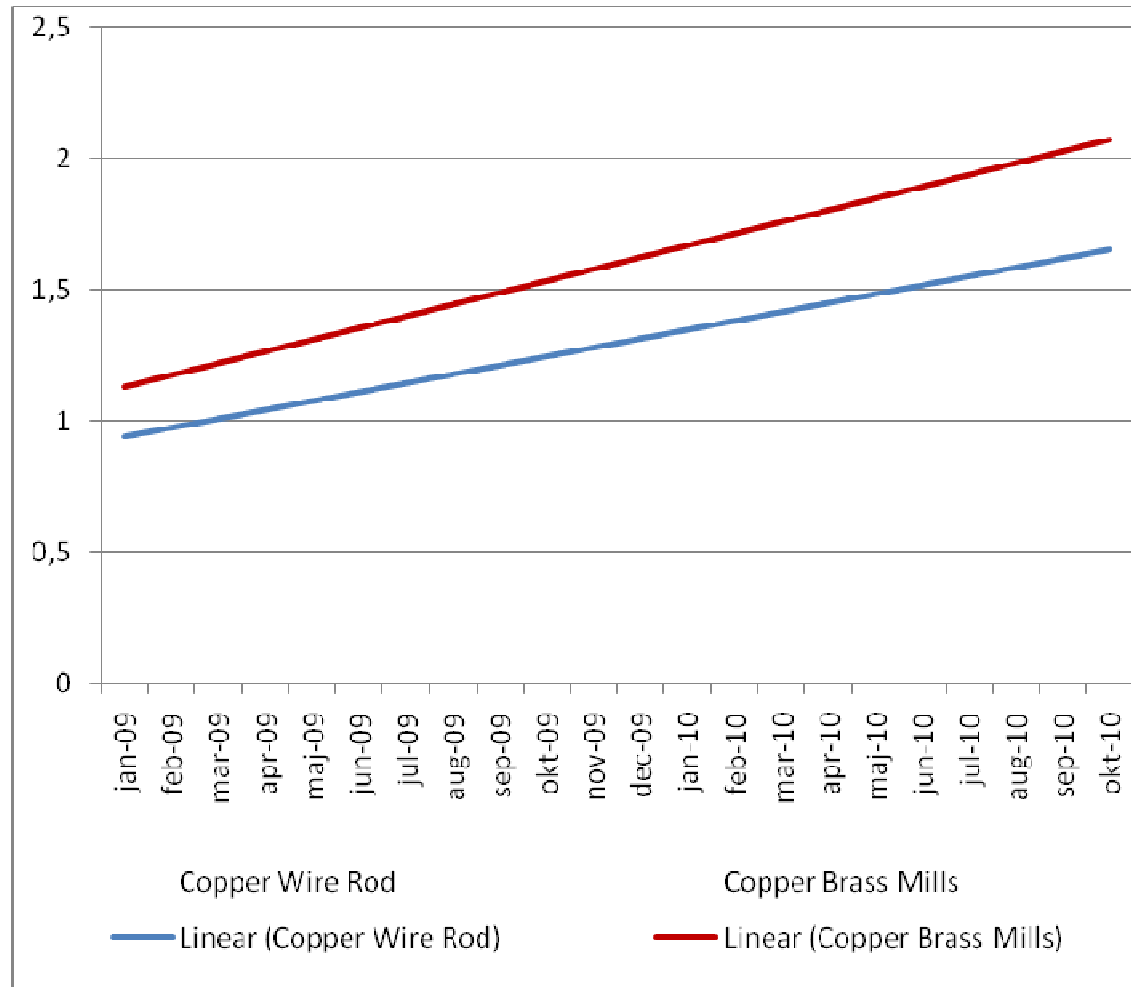
Western Europe; France, Germany, Italy, Spain, UK, Other
Source BH Q32010

2010 Western Europe



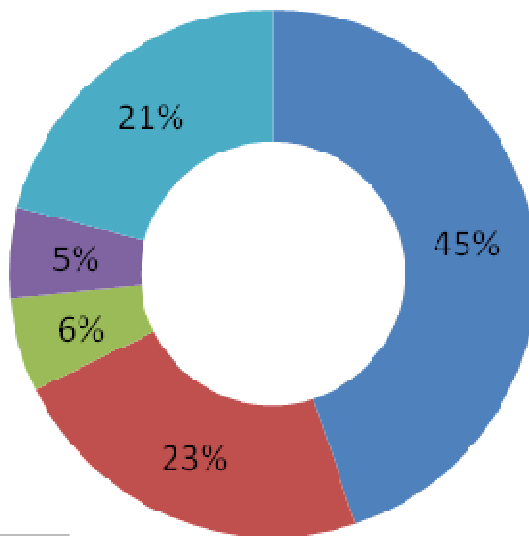
Boliden Copper – balanced sector recovery

(trend lines from Jan-09)



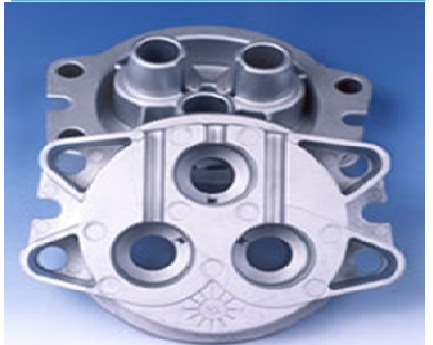
Our Customers - Zinc

Boliden Sales - First Use*



*estimate

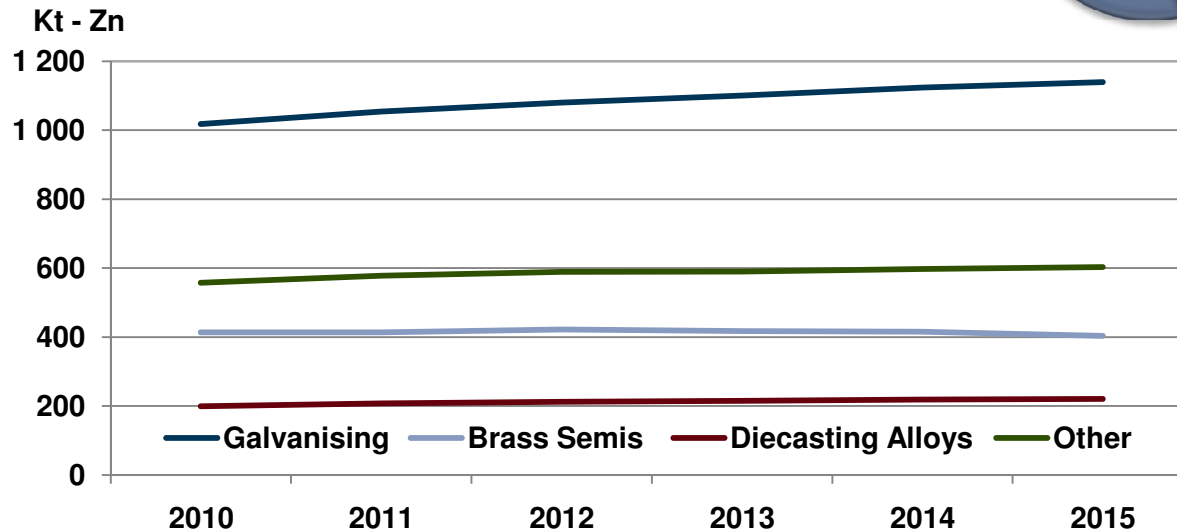
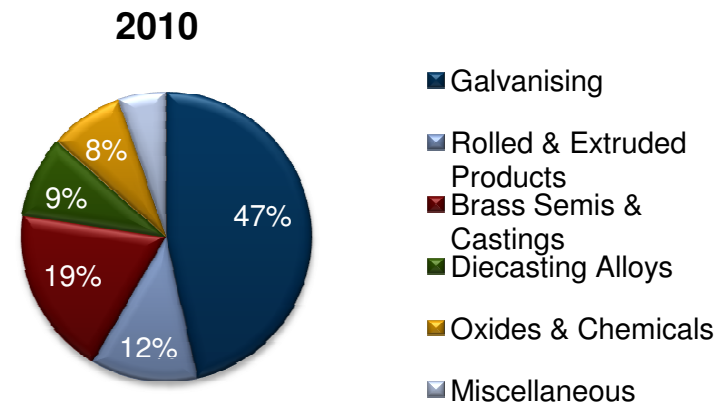
- Continuous Galvanizers
- General Galvanizers
- Brass
- Die-cast
- Other (sheet, powder, wire)



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Western European zinc consumption by first use

- Western European Zinc Consumption to increase 8.1% or 178 Kt between 2010-2015

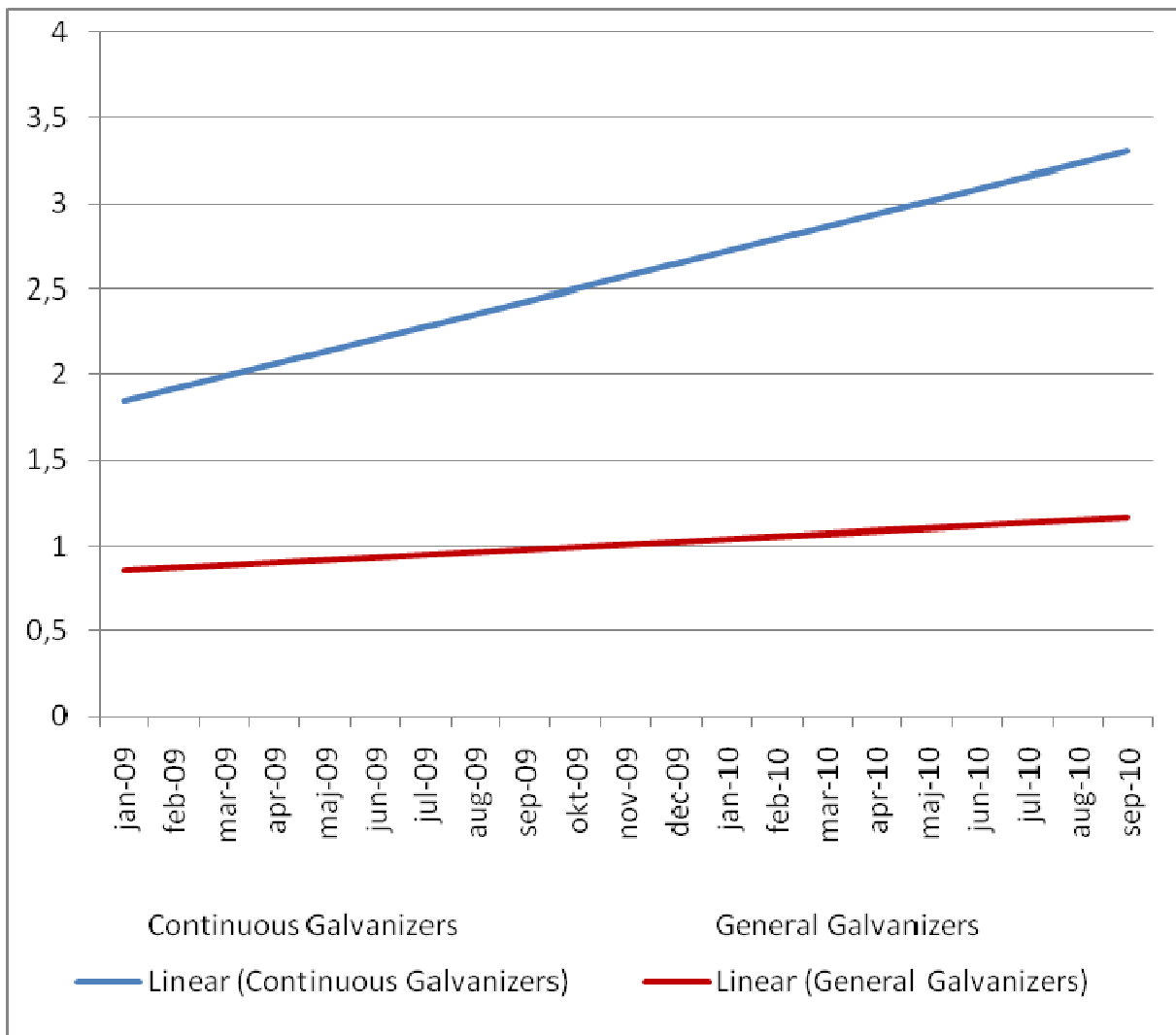


Source: Brook Hunt a Wood Mackenzie Company LTO Sept 2010



Boliden zinc –steel mills lead recovery

(trend lines from Jan-09)



Boliden sales - recovery

- Zinc and Copper demand are a function of industrial production
 - Particularly supported by German auto exports
- Balanced sector recovery for Copper: star demand driver for Copper rod is Copper winding wire: demand is up due to strong demand for electrical equipment
- Main demand driver for Zinc are the Continuous Galvanizers for automotive sector
- Boliden market share in Western Europe:
 - Zinc: 25%
 - Refined Copper: 10%



Change in customer behaviour – benefits Boliden

The combination of:

- Higher focus on stocks and
- Low visibility & short order books

Is resulting in:

- Less stocks "in the total pipeline"
- Faster changes in demand
- Benefits local European suppliers that can deliver at short notice



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Boliden's edge – Copper customer's perspective

- Reliable & partly-integrated Supplier
 - Delivery Reliability
 - Product Quality
- Fluent Logistics
- Local European Supplier



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Boliden's edge – Zinc customer's perspective

- Integrated & Reliable Supplier
 - Delivery Reliability
 - Product Quality
- Galvanizing Alloys
 - ZiNiGal®
 - MagiGal®
- Reducing galvanizing costs
- Technical Support
- Risk Management Services



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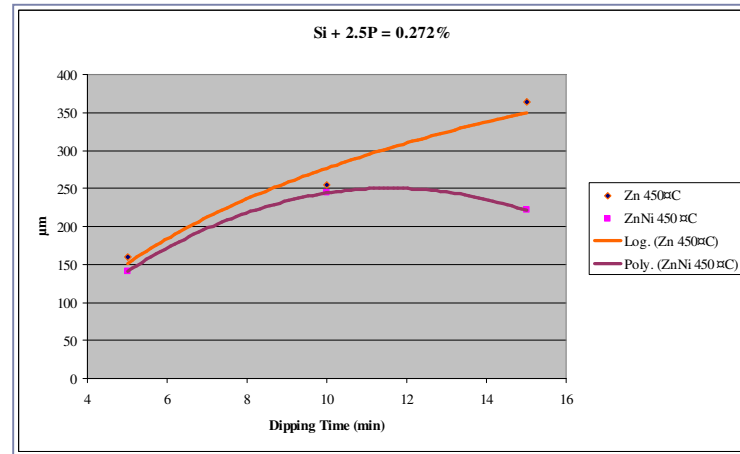
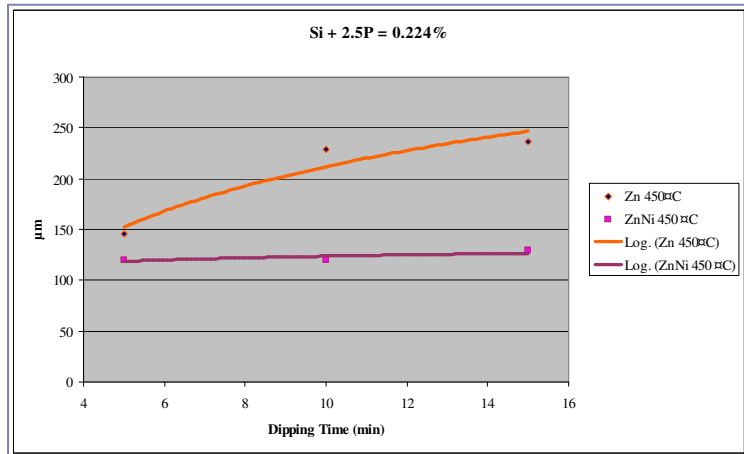
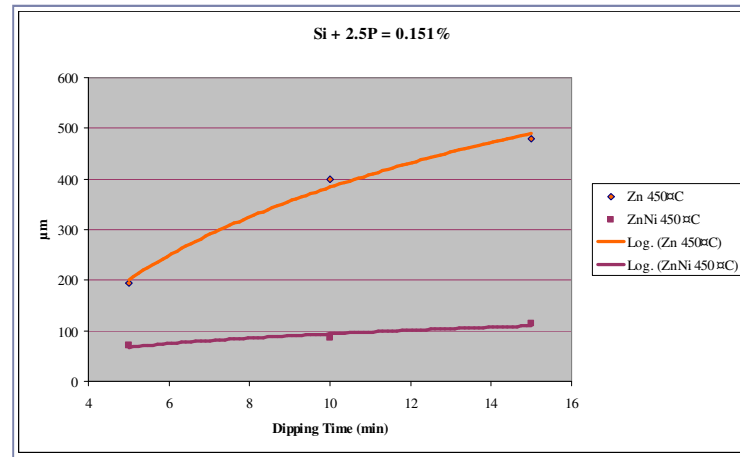
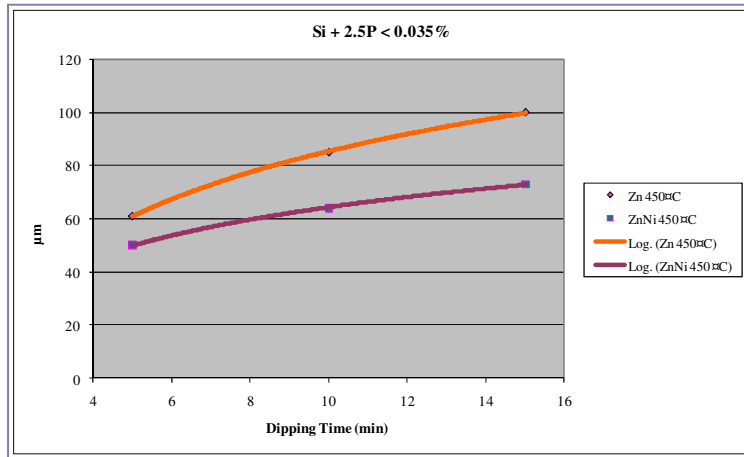
ZiNiGal®

- ZnNi(Bi) alloy for General Galvanizers
- Reduction of zinc layer thickness
- Reduces Zn consumption by 10 – 15%*
- Ready made alloy: no mixing
- Improved process control



Reduced coating thickness ZiNiGal vs Zinc

different steels and dipping times



MagiGal®

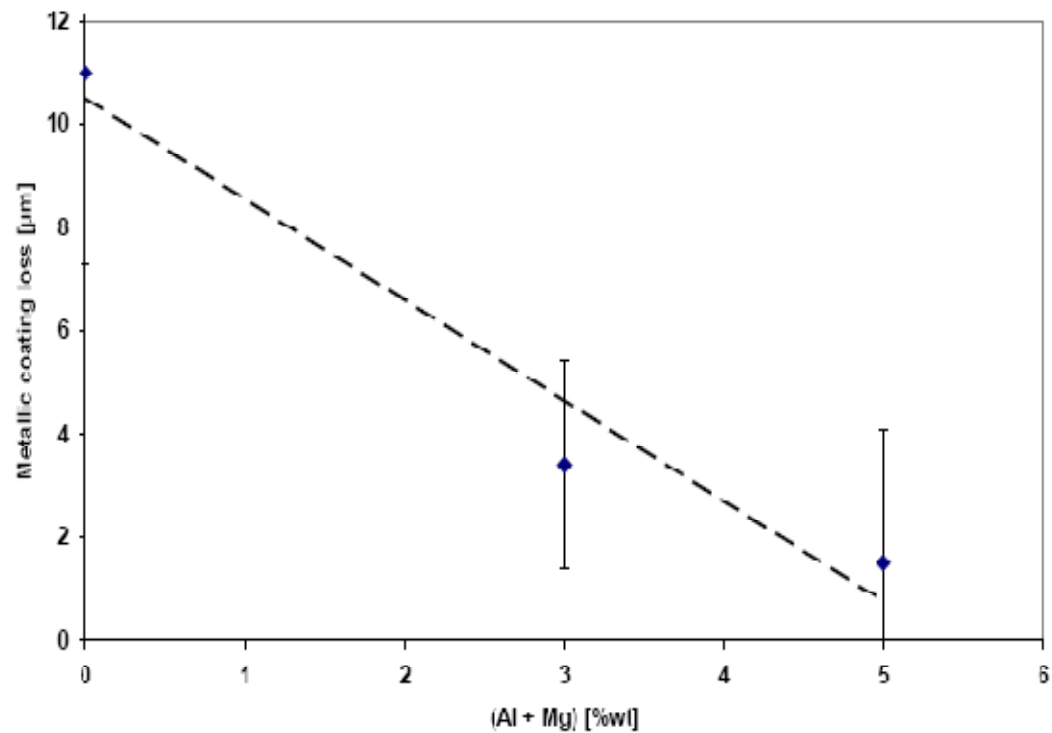
- ZnMgAl alloy for continuous galvanizing
- Increased corrosion resistance
- Reduction of zinc layer thickness
- Reduces Zn consumption by 50 – 80+%
- Ready made alloy: no mixing
- Improved process control



Corrosion protection MagiGal® alloys

- Aluminium + Magnesium increase coating corrosion resistance
- Challenge: Increased brittleness of coating on forming characteristics

Metallic coating loss plotted against total alloying of coatings



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