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Creating Innovative and Sustainable Solutions for Today’s Challenges and Tomorrow’s Opportunities

Metal Bulletin’s 19th International Aluminium Conference
19-21 September 2004
Welcome to Norway
Well developed aluminium industry cluster in Norway
A fully integrated global aluminium company

- Bauxite/alumina
- Virgin metal
- Casthouse products
- Rolling Extrusion
- Fabrication & Systems
- Automotive
Western World* demand expected to grow in the coming years

* World, excluding Central and Eastern Europe, China, Russia, Ukraine, North Korea

Sources: Brook Hunt; Hydro Aluminium
China emerging as a major aluminium market

Global primary demand 2003
27.3 million tonnes

- US 24%
- Europe 25%
- China 19%
- Japan 9%
- Other Asia 13%
- Other 10%

Global primary demand 2012E
42 million tonnes

- China 28%
- Europe 21%
- Japan 6%
- CIS 5%
- Other 8%
- US 18%
- Other Asia 14%

Sources: CRU; Hydro Aluminium
Metal deficits in Europe and the USA will continue to grow

Net exports, primary aluminium
1,000 tonnes

Source: CRU, Hydro Aluminium * Excluding China
Creating value through innovative solutions

Agile organization

Customer responsiveness

Unique portfolio

Business concepts

Applications

Technology

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Hydro Aluminium
Best Practices

contributing to performance culture and integration
Properties of aluminium utilized in advanced application areas

Properties of aluminium:
- Strong and light
- Highly corrosive resistant
- Good conductivity
- Good reflective qualities

- Easy to form and process
- Impermeable and odourless
- Non-flammable
- Good recyclability
- Good energy absorption qualities

Aluminium is the ideal material for the building, automotive and packaging industries
Light-weighting the front end in automotive

BMW 5-Series:

Comparison of weight

Since 7/2003 (aluminium + steel):
- Aluminium: 29.4 kg
- Steel: 17.4 kg
- Total: 46.8 kg

Before 7/2003 (steel):
- Steel: 67.5 kg

0.8 kg glue

Total weight since 7/2003: 19.9 kg

Before 7/2003: 47.6 kg

Weight difference: 27.7 kg
Innovative solutions in building
Aluminium in windows and facades contribute to sustainable buildings:

- Reduced energy consumption in construction and use
- Maximized user comfort on thermal aspects and daylight utilization
- End-of-life recycling and high architectural flexibility
HYBRAZ™ simplifies the production process and improves environmental aspects

The new coating presents clear benefits:

- Elimination of fluxing and degreasing operations
- Improved cosmetic appearance of brazed radiator core
- Increased productivity with up to 80%
- Possible first time yield increase from 93% to almost 100%

Old technology

New HYBRAZ™ PF
Superior packaging solutions

- Protection of food quality to withstand influences from:
  - Oxygen
  - Water and light
  - Microorganisms
- Neutral smell and taste
- Non-toxic
- Wide range of decorative aspects
Innovative smelter technology – reduced emissions

Strong focus to improve external and internal working environment:

- HAL 250 technology with forced suction
- Best available technology in fume treatment
- Cooling boxes for butts and bath material
- Pneumatic ship-unloading and fully automatic closed handling of alumina

Sunndal metal plant
Advanced filtration and casting systems – one quality to customers

Technology that ensures top quality casthouse products with metal input from different sources, also giving flexibility in the optimization of supply mix and logistics
Common efforts needed to strengthen the position of aluminium

- Global sustainable development initiative (global targets)
- Global aluminium Life Cycle Inventory
- European aluminium industry Sustainable Development Report
- Life Cycle Inventory
- Stakeholders workshop
- Aluminium for Future Generations
Enjoy your trip!