



*Engineered Solutions Since 1911*

ISO 9001:2000

# High Temperature Insulating & Sealing for the Aluminium Industry



Alma, Quebec, Canada - 515, 000 ton capacity  
photo courtesy of Alcan

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## Table of Contents

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Robco - a brief history .....	3
TREO™: Start-up kits for electrolysis cells .....	4
Maximizing siphoning operations in electrolysis process with high performance sealing products .....	5
<i>NFT High Performance:</i> .....	5
<i>1201 Economical:</i> .....	5
Crucible lid seals: .....	6
<i>HTVS High Performance</i> .....	6
<i>1600 Economical:</i> .....	6
Sealing of cathodes and collector bars .....	7
<i>#280 braided seal</i> .....	7
<i>#79</i> .....	7

## Robco - a brief history

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Robco has been involved with aluminium smelters for over 90 years and is today a recognized partner of that industry. We are based in Quebec, Canada; where the highest concentration of aluminium smelters in the world can be found. Over the decades, our technicians have literally spent years in smelters, doing reverse-engineering on all types of sealing applications! With such accumulated credentials, it is no surprise that we can provide the best products in the world of aluminium today. All are produced under ISO 9001: 2000 and possess the following characteristics:

- Meet the latest health & safety requirements (bio-solubility, Class III IARC, etc.)
- Best value: Highest performance, but always at a reasonable cost
- Always user-friendly
- We constantly aim at offering you two alternatives: "Best" and "Economical"



## Start-up kits for electrolysis cells with TREO™

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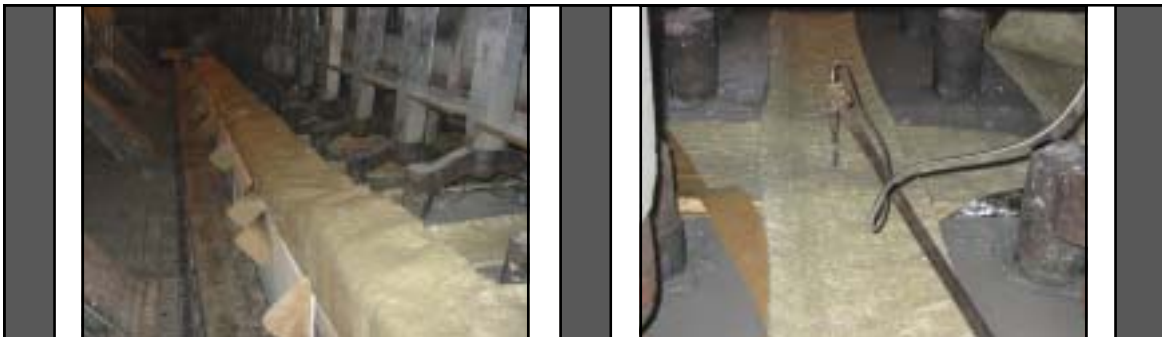


Two major methods are used to start-up production of electrolysis cells

- By the use of electrical resistance
- By the use of preheating with gas

Robco and its joint venture Tritex, have developed insulation kits made with its TREO™ patented blanket, that can be rapidly installed to offer the following characteristics:

- Provide **maximum insulation** per inch of insulation
- **Safest** fiber insulation material on the market:
  - CLASS III by IARC (International Agency of Research on Cancer)
  - Large and long non-respirable fibers
  - Will not form crystobalite (crystalline silica) after heating
  - 100% mineral
  - Will not produced any toxic fumes when heated, contrary to rock wools
  - All materials are free of asbestos or refractory ceramic fiber
- **Quick** to install
- Pre-cut kits **reduce handling** to the minimum by employees
- **Low iron** oxide content (0.01% nominal)

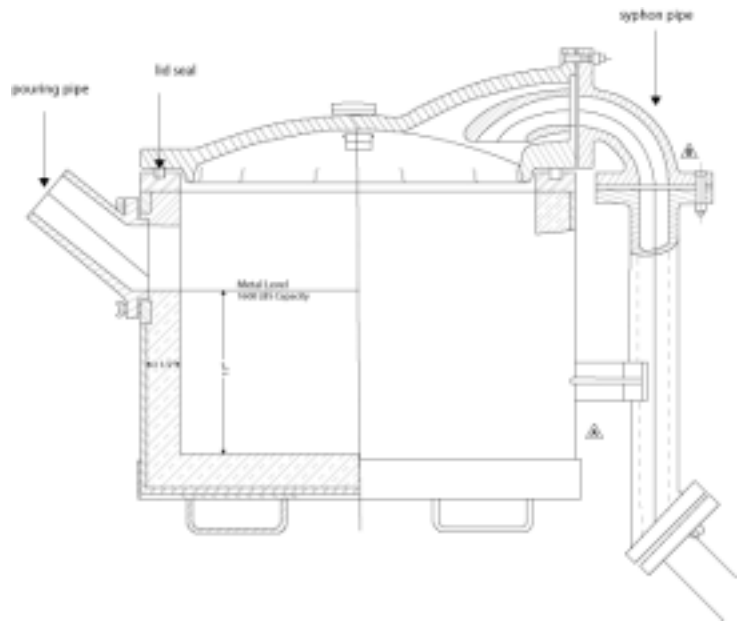


# Maximizing siphoning operations in electrolysis process with high performance sealing products

*No matter how much time you spend looking at every detail to make your siphoning operations go smoothly... sometimes the little things cause the most trouble!*

When a simple inexpensive gasket leaks, you are faced with several inadvertent costs:

- Costly tube cleaning because of "frozen" aluminium
- Production downtime
- Schedule problems
- Cost of gasket replacement



## High Performance: Robco NFT Gasket



Finally, a gasket that will outlast the life of your siphon tube, so you may plan your maintenance peacefully...

- **High performance** sealing ring
- Gaskets are **cut to your flanges** design
- **Safety backup** gasket on adjoining perimeter
- All materials are **safe** and free of asbestos or refractory ceramic fiber

## Economical: Robco 1201 Gasket



An affordable and functional way to seal siphon tubes

- Require **minimal** compressive **load**
- **High temperature** resistance
- 100% mineral: will not shrink or lose volume under heat, which **prevents loose gaskets**
- Class III IARC: All materials are **safe** and free of asbestos or refractory ceramic fiber

# Crucible lid seals

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Crucible lid seals have a tendency to:



photo courtesy of Alcan

- Compress too much
- Are not completely airtight
- Molten aluminium sticks to it
- They rip when you open the lid, because of molten aluminium bonding
- They require regular replacement

Envision the costs-savings if you could significantly increase the life of your lid seals and not have to deal with all these problems!

## *High Performance: Robco HTVS Lid Seal*



After years of experimenting, Robco has elaborated the lid seal gasket that will outlast all other seals on the market.

- Made of **high temperature, abrasion resistant** yarns
- **High density** to prevent over-compressing
- Surface treatment that **prevents aluminium from sticking** and **ripping** the surface
- Saturated with mineral compound to make the seal **air tight**
- Class III IARC: All materials are **safe** and free of asbestos or refractory ceramic fiber

## *Economical: Robco 1600 Lid Seal*

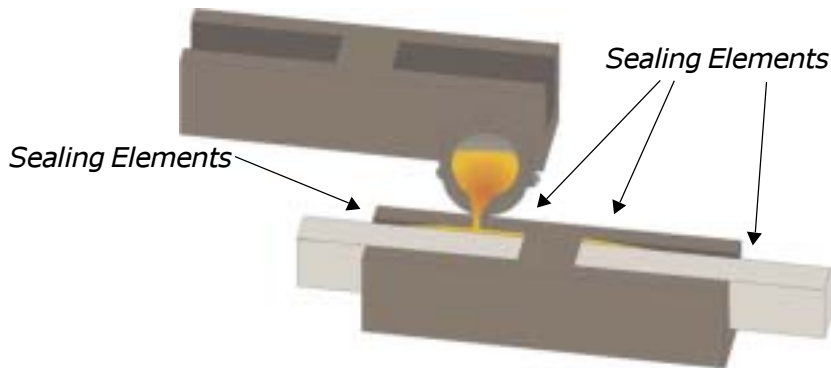


- Special braiding method provides **extended life** over standard braided glass gaskets
- **High density** braid to prevent over-compressing
- Mineral treatment to **prevent sticking**
- Class III IARC: All materials are **safe** and free of asbestos or refractory ceramic fiber

# Sealing of cathodes and collector bars

Various methods are used to seal the end of cathodes when they are joined with collector bars.

Robco can provide you with the safest materials with a proven track record that will do the job productively.



## #280 braided seal



- Braided from high temperature yarns and treated with High temperature coating that **will resist molten cast iron** at 1600°C until it solidifies.
- **Safe** and bio-soluble
- Specific density to provide a **good seal**, yet, **pliable** enough to immediately conform to collector bar
- Cut to size
- Will not fray

## #79



- Extremely soft and malleable
- Safe & bio-soluble
- Cut to size if required



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