

## **Balmerol® Aquaroll 411 (BI)**

### **Semi Synthetic Cold Rolling Oil**

Technical Data Sheet

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#### **Product Description:**

Balmerol Aquaroll 411 (BI) is tailor-made for 4-Hi CR mills of moderate speeds for maximum strip width 600 mm and belongs to the family of high performance semi-synthetic stable emulsion forming cold rolling oils. It is formulated with a synergistic blend of synthetic esters, natural fats and special purpose additives to provide desired lubricity, load-bearing ability and resistance to oxidation & microbial growth. The formulation package provides good gauge reduction characteristics, enhanced roll life, good strip cleanliness through its inherent detergency and total burn-off characteristics. The greatly extended emulsion life and much reduced specific oil consumption (lts/tonne of steel rolled) also ensures direct savings to the user. Use of Balmerol Aquaroll 411 (BI), thus, is a BIG STEP FORWARD from the practice of using soluble cutting oils for cold rolling operations in narrow width mills.

#### **Features & Benefits:**

Balmerol Aquaroll 411 (BI) provides the following benefits:

- Outstanding Inherent load bearing ability compare to mineral base product
- Fortified with special purpose additive to provide desired lubricity
- Excellent gauge reduction characteristics
- Good strip cleanliness, provided by inherent detergency and good burn off characteristics of this oil results in improved quality of rolled steel
- Much reduced specific oil consumption also ensures direct savings to the user

#### **Applications / Recommendations:**

- For best performance, Balmerol Aquaroll 411 (BI) is recommended to be used at an emulsion strength of 2.5 – 3.5%. The emulsion should preferably be made with water having low chloride and sulphate content
- Use of mechanical stirrers in the emulsion tanks would vastly facilitate uniformity of emulsion and resultant superior rolling performance. In absence of stirrers, continuous recirculation of the emulsion is recommended.
- **Detailed guidelines regarding emulsion preparation and emulsion maintenance will be provided prior to commencement of usage.**

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## Typical Properties:

Balmerol Aquaroll 411 (BI)	
Properties	Aquaroll 411 (BI)
Colour & Appearance @ ambient temperature	Dark Brown liquid
Kinematic Viscosity, ASTM D 445, cSt @ 40°C	45 -55
Specific Gravity @ 30°C	0.89 - 0.92
Acid Value, mg KOH/g, max	10
Saponification Value, mg KOH/g	90 - 110
pH, 5% emulsion in distilled water	6.5 - 7.5
E.S.I. of 5% emulsion in DM water @ 50° C	0.88 - 0.92

## Health and Safety:

Balmerol Aquaroll 411 (BI) is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. For MSDS please contact your local Balmer Lawrie Marketing / Technical Service team.

For Further Information, contact:

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