



# Shell Lubricants

METALS

Shell Tellus EE hydraulic fluid helps reduce electricity consumption by 16%

posco

*Based in Korea, POSCO is a steel manufacturer.*

**Company:** POSCO  
**Country:** Republic of Korea  
**Application:** Hydraulic systems  
**Saving:** US\$1,040 projected total annual customer saving per application  
**Key edges:** Shell Tellus EE, Shell LubeAdvisor

**With the energy efficiency benefits of Shell Tellus EE aligning nicely with company interests, POSCO agreed to trial the recently released product designed to reduce electricity consumption on its hydraulic systems.**

Shell worked closely with POSCO to introduce and monitor the performance of Shell Tellus EE over a period of five months. The results were very positive illustrating a 16% decrease in electricity consumption and a projected annual saving of over US\$1,000 in energy costs per application.

MSKI-006

DESIGNED TO MEET CHALLENGES



## 1 The Challenge:

In line with POSCO's policy of reducing energy consumption in hydraulic systems, Shell suggested the trial of the new hydraulic lubricant, Shell Tellus EE. Specifically designed to reduce electricity consumption in hydraulic systems, the customer was interested in the product's performance abilities and, having a strong business relationship with Shell, agreed to the trial.

## 3 The Outcome:

The results of the trial showed that various operational benefits were achieved. These included:

- 16% electricity consumption saving – the electricity current value was reduced by 16amps
- Extension of maintenance cycles and longer oil life
- Reduction in product waste and disposal costs

## 2 The Solution:

A Shell Technical Team used Shell LubeAdvisor to confirm a product match for the customer's application, Shell Tellus EE 46. Working closely with the customer, the new lubricant was introduced to the plant's Servo valve diagnostic equipment hydraulic system. Being a new product, performance was closely monitored and recorded by both Shell and the customer.

Along with reducing electricity consumption and consequently carbon footprint, the Shell Technical Team expected the customer to realise additional cost saving benefits in the areas of waste disposal and extending maintenance cycles.

## 4 The Value:

Shell Tellus EE 46 contributed to a 16% reduction in electricity consumption with its performance aligning nicely with POSCO's sustainable business objectives. The customer will now consider the application of Shell Tellus EE 46 to other key hydraulic systems on site.

Projected operational savings attributed to the 16% reduction in energy consumption can be calculated at US\$1,040 (1,041,432 KRW) per annum from one piece of equipment.

The savings indicated are specific to the calculation date and mentioned site. These calculations may vary from site to site depending on application, operating conditions, current products being used, condition of the equipment and maintenance practices.

### Shell Tellus EE

#### Energy efficient hydraulic fluids

Shell Tellus Fluids EE are high quality hydraulic fluids specifically designed to help customers reduce their energy costs while operating hydraulic systems, especially for those working in stationary conditions. They maintain or even further improve all the other properties of Shell Tellus Oils.

#### Applications

- Industrial hydraulic systems
- Mobile hydraulic fluid power transmission systems
- Marine hydraulic systems

#### Performance features and benefits

##### Energy efficiency

The formulation adopted allows the achievement of energy savings of up to 8% as demonstrated in field trials, thanks to the following three elements: the fluid density, the friction properties and high viscosity index. The first two are the drivers for system operating in stationary condition while the third one play a key role in case of variable conditions. Shell Tellus EE contains a patented additive technology.



#### Reduce maintenance costs

Shell Tellus EE offers outstanding performance in all the properties relevant to a hydraulic fluid, enabling you to operate your machinery in a reliable and efficient manner. As with other fluids in the next generation Shell Tellus range, use of Shell Tellus EE helps you reduce problems such as sludge build up, valve sticking, increased wear, filter blocking, corrosion and contamination.

By using Shell Tellus EE you can therefore protect equipment (pump, filter, seals, valve, hose), avoiding premature failure and replacement thereby increasing productivity while reducing maintenance costs.

#### Longer oil drain intervals

The usage of synthetic base fluids in the formulation increases the oil drain interval achievable provided that excellent maintenance and design practices are in place to prevent fluid contamination. The nature of the base fluids also allow tolerance of slightly higher working temperatures than those normally encountered with mineral oil based products.

#### Specifications and approvals

Shell Tellus EE meet the requirements of: CINCINNATI P-68 (ISO 32), CINCINNATI P-70 (ISO 46), CINCINNATI P-69 (ISO 68), Eaton (Vickers), ISO 11158 HM, ASTM D6158 HM, Swedish Standard SS 15 54 34 AM, AFNOR NF-E 48-603



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