

# SEL ELEKTROKIMIA



# Perubahan energi

Perubahan energi:

1. Kimia  $\rightarrow$  Listrik



2. Listrik  $\rightarrow$  kimia



APLKASI ENGINEERING

DECORATIVE



Gambar (1)  
Silinder Hidrolik

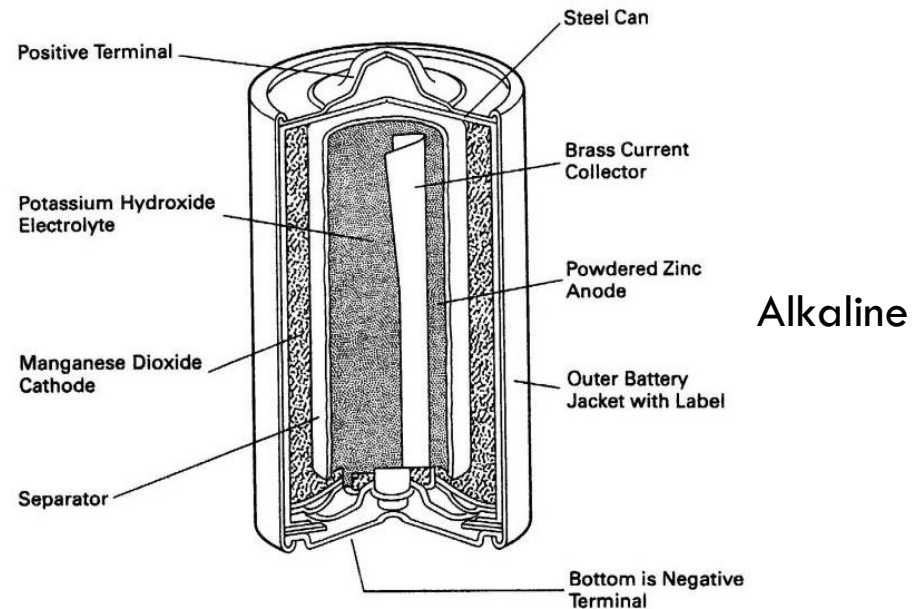
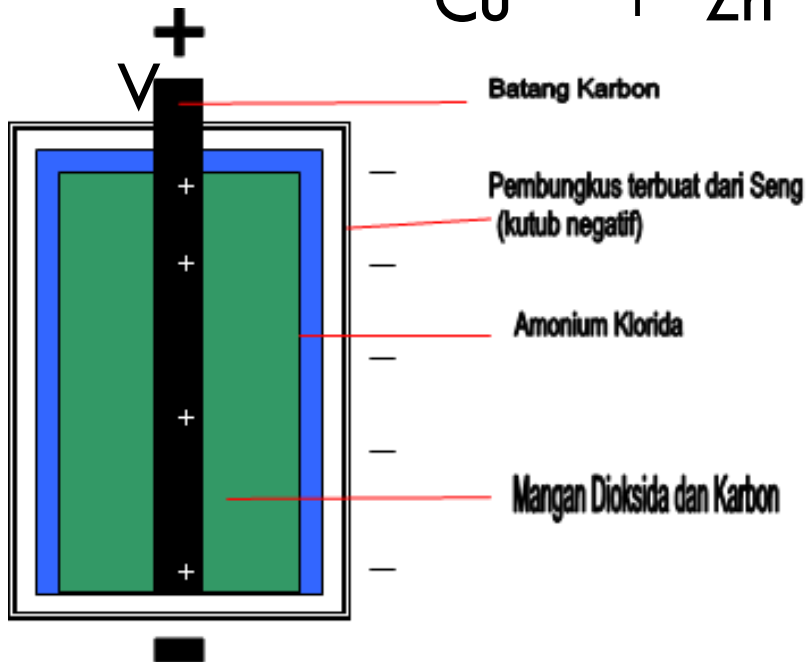
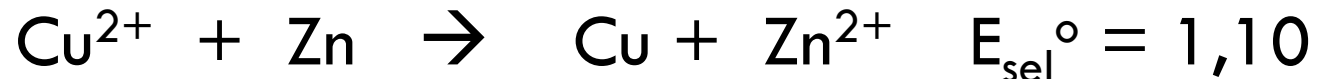


Gambar (2)  
Tutup blok mesin motor

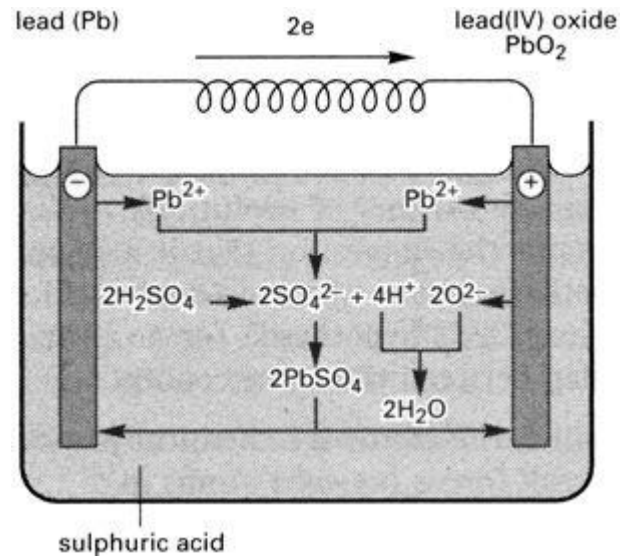
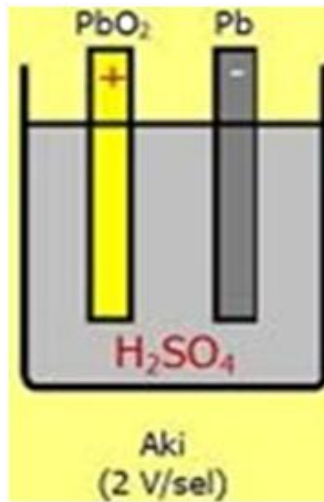
Anoda  $\rightarrow$  mengalami oksidasi  
Katoda  $\rightarrow$  mengalami reduksi

# 1. Sel kering: Baterai

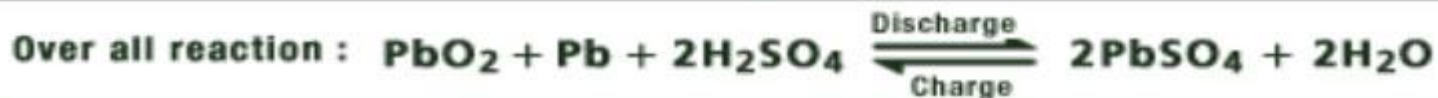
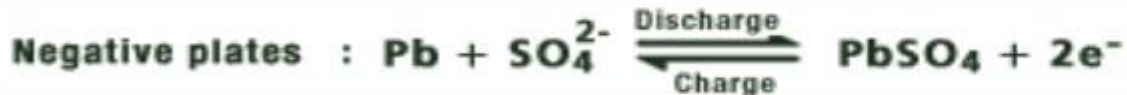
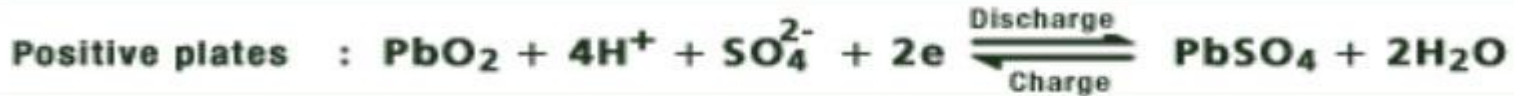
Reaksi pada baterai



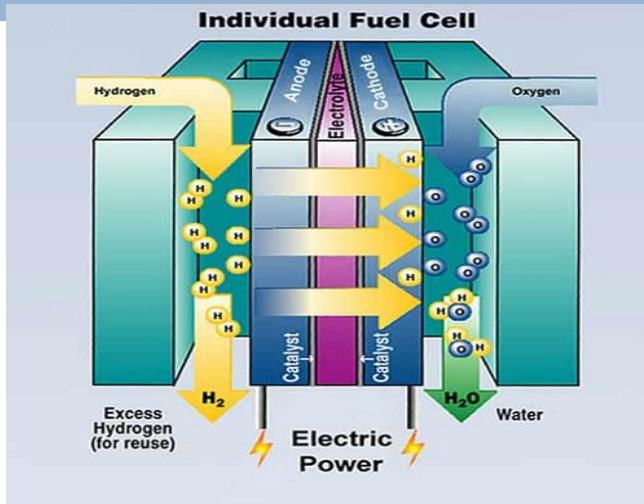
# 2. Sel Aki



Reaksi kimia pembentukan listrik:



# 3. Sel Bahan Bakar

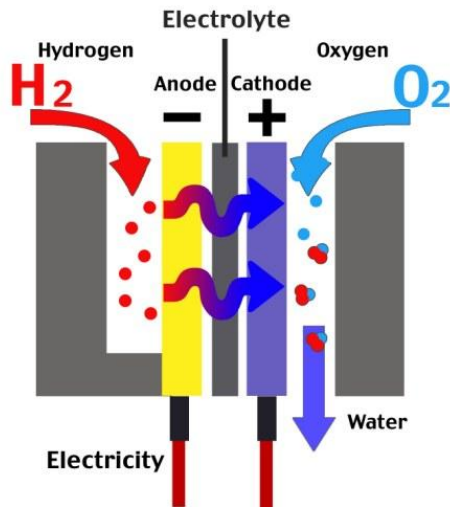
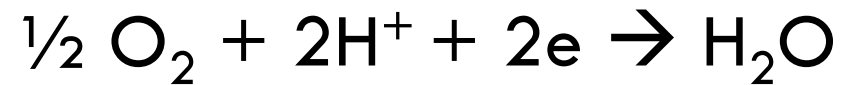


Elektroda : Ni

Elektrolit : Larutan KOH

Bahan Bakar : H<sub>2</sub> dan O<sub>2</sub>

Reaksi:

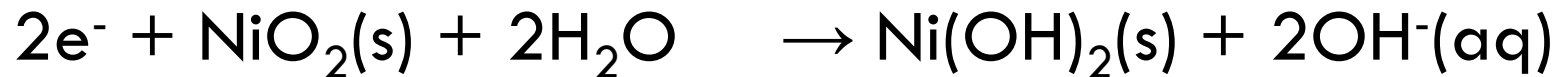


## 4. Baterai Ni-Cd

Katoda :  $\text{NiO}_2$  dengan sedikit air

Anoda : Cd

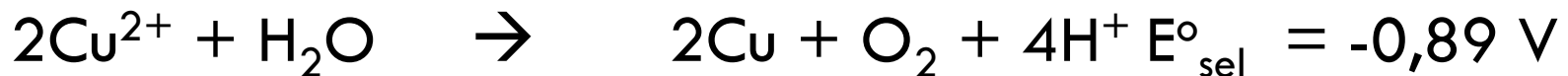
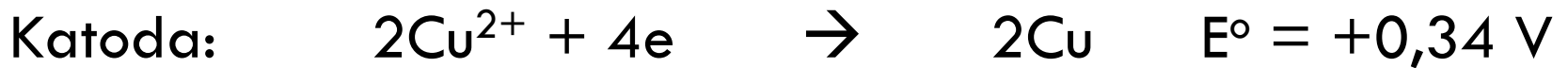
Reaksinya:



# Lapis Listrik

## Multimedia pelapisan logam

Reaksi pelapisan Cu:



# Berat Lapisan

Persamaan Faraday:

$$G = e i t / F$$

Keterangan:

$G$  = berat logam yang melapis (gram)

$e$  = bilangan ekivalen

=  $BM / \text{jumlah muatan ion}$

$i$  = kuat arus (ampere)

$t$  = waktu pelapisan (detik)

$F = 96500$  ampere detik



# Ketebalan Lapisan

Perhitungan Tebal Lapisan

$$V = G / \rho$$

$$\text{tebal lapisan} = V / A$$

Keterangan:

$\rho$  = massa jenis lapisan

$G$  = berat lapisan

$V$  = volume lapisan

$A$  = Luas permukaan benda kerja