



BLT Circuit Services Ltd  
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TECHNICAL DATA:

## **COPPERWET 1171**

### **Micro Etch Cleaner for Copper**

#### **Description:**

**Copperwet 1171** is an aqueous micro-etch cleaner which when diluted with water produces a consistent micro etch for Copper and Copper Alloys.

**Copperwet 1171** is particularly recommended as a pre-hot air level, dry film lamination cleaner.

#### **Benefits:**

- Consistent etch rate.
- Stable solution.
- Uniform micro etch.
- Simple waste water treatment.
- Operates at room temperature.
- Organic contaminants removed simultaneously.

#### **Application:**

##### **1) Concentration and temperature:**

- a) Base Copper or Electroplated Copper.  
25-50% Copperwet 1171 with De-min Water at 20-25°C.  
Immersion times of 1-2 minutes are normally sufficient on degreased Copper.
- b) Electroless Copper  
20-25% Copperwet 1171  
An immersion time of 30 seconds to 1 minute on 2.5u  
Electroless Copper is recommended following alkaline degreasing of Copper.

##### **2) Control:**

- a) Visual  
The solution should be changed when an immersion time of greater than 3 minutes is required to produce a uniform micro etch on a degreased panel.
- b) Copper Analysis  
Analyse for Copper using the method below and change the solution when the Copper content exceeds 5gpl.



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### Copper Analysis Procedure

1. Pipette 5ml of working solution into a conical flask.
2. Add 50ml of De-Min Water.
3. Add 15ml of 0.880 Ammonia Solution.
4. Titrate against 0.1m EDTA using Pan Indicator until solution turns green.

Calculation – mls of 0.1m EDTA x 1.26 = gpl Copper.

### c) Etch Rate – New solution

| <u>Concentration</u> | <u>Temperature</u> | <u>Approx. Etch Rate<br/>on Electrolytic Copper</u> |
|----------------------|--------------------|---|
| 50%                  | 20°C               | 0.9u/min  |
| 25%                  | 20°C               | 0.6u/min  |
| 50%                  | 25°C               | 1.4u/min  |
| 25%                  | 25°C               | 0.8u/min  |

-Etch Rates will reduce as Copper level increases.

### Handling Precautions:

- Avoid contact with the eyes.
- In case of contact with skin or eyes rinse immediately with cold water and obtain medical assistance.
- Store away from heat, solvents, acids and alkalis.
- Refer to separate Material Safety Data Sheet.

### Disposal of Spent Solution:

- Dilute with water, neutralise to pH 8.5 with dilute alkali.
- Settle or filter to remove solids.
- The clear liquid should be tested for Copper before being further diluted for disposal to comply with specific Discharge Consent.

**BLT Circuit Services Ltd** manufacture a range of flocculants and equipment designed specifically for Copper removal. Details available on request.

### Warranty

All reasonable endeavours have been made to ensure that the information contained in this data sheet is accurate, but it is submitted on the express condition that BLT Circuit Services Ltd. shall be under no liability whatsoever in respect thereof or for any loss, injury, damage or liability of whatsoever nature arising, suffered or incurred as a consequence of its use.

