3055 BA SANGAM COLLEGE

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LESSON NOTES

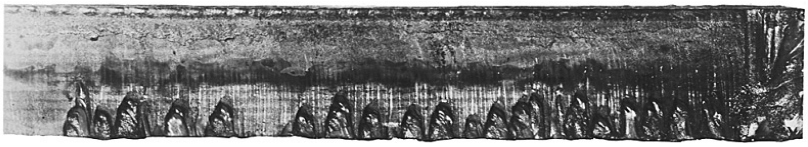
School: Ba Sangam College **Year/Level: 12** **Name:**

Subject: Applied technology **Worksheet 19** **Year:**

Strand	Welding and Fabrication
Sub Strand	Cutting and Forming Process
Content Learning Outcome	Know the common faults of Oxy Acetylene Cutting

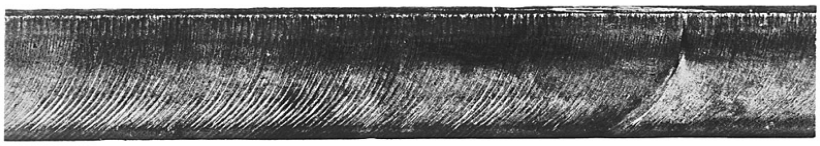
Common Faults of Oxy-Fuel Cutting

1. Cutting Speed Too Low



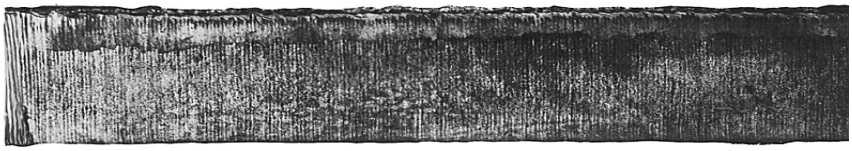
An abnormally low cutting speed results in heavy gouging of the cut surface and slag adhering in large globules. Under this condition, oxygen and fuel gas are being wasted.

2. Cutting Speed Too High



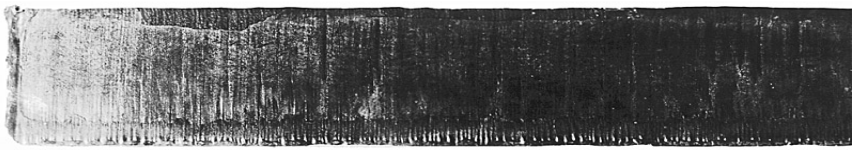
An extremely high cutting speed results in heavy lag, as shown by the curved lag lines on the cut surface. The face is reasonably smooth but somewhat concave. Slag will adhere during cutting, but it may be removed with ease. Heavy lag cutting is recommended for straight line cuts only.

3. Nozzle Too Far From Surface



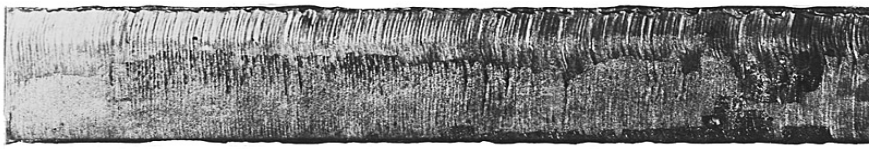
When the nozzle is too high above the work, excessive rounding of the top edge occurs. Also, the cutting speed may have to be lowered. With the correct nozzle clearance, the preheat flames should not be more than 1/4” above the top surface of the plate.

4. Nozzle Too Near Surface



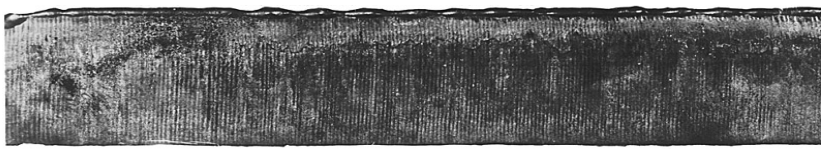
When the nozzle is too low, part of the preheat flame’s inner cones become buried in the cutting kerf. This produces grooves in the cut face and excessive melting of the top edge. Also, the flame becomes subject to popping and lost cuts may result.

5. Excess Cutting Oxygen



If the cutting oxygen pressure is too high or the nozzle size too large, a reduction in cut quality will result. Nozzles are made to operate within a limited range of torch pressures. Therefore, excessive oxygen pressure causes distortions in the oxygen stream once it leaves the nozzle.

6. Excess Preheat Flame



Inexperienced operators often try to increase cutting speeds by using a heavy preheat flame. Excessive preheat causes melting of the top edge and may actually lower the speed of cutting. In addition, oxygen and fuel gas are wasted.

7. Dirty Nozzle

If the nozzle has been fouled, it may cause the oxygen stream to lose its parallel form. The cut surface will not be smooth and square, and there may be pitting, under- cutting, heavy slag or scale. The nozzle should be cleaned with care, so as not to distort, or bell-mouth, the cutting oxygen bore.

Review question (10 marks)

1. List the 7 common faults of Oxy Fuel Cutting?

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(7 marks)

2. What happens when the cutting speed is too high?

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(2 mark)

3. What happens when the noozle is too far from the surface?

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(1 mark)