

OFFICE MEMORANDUM



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April 9, 1962
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To: E. A. Finney, Director
Research Laboratory Division

From: B. W. Pocock

Subject: Rustake Glare-Proof Fencing. Research Project 61 NM-58.
Research Laboratory Report No. 380.

Inspection has been completed of the sample of Rustake fencing from Cyclone Fence, American Steel and Wire Division, U. S. Steel Corp., submitted to the Research Laboratory Division for evaluation as a glare screen in accordance with M. M. Myers' letter to R. L. Greenman of August 3, 1961.

The sample is shown in Fig. 1. The fence is 4 ft high and consists of cedar or redwood slats wired together at 0.5-in. intervals. The slats are 2.5-in. wide and 3/8 in. thick.

To function effectively as a glare screen the fence should have the following characteristics:

1. Effectively shield the driver's eyes from objectionable glare from the headlights of approaching vehicles.
2. Provide acceptable lateral visibility through the screen.
3. Must not of itself contribute to accident causation or constitute a major maintenance problem.
4. Have an esthetically acceptable appearance; in other words, it must not be an eyesore.

Measured against these criteria, Rustake fencing is not a suitable glare screen. While it effectively obscures glare from oncoming headlights, it permits practically no lateral visibility and by its construction would act as an almost perfect snow fence to cause drifting on the roadway. It is also questionable whether the esthetic appearance would be acceptable.

For comparison an inspection was made of the field installation of Alcoa glare screen on I 96 east of Brighton (Fig. 2). The design of this screen appears to provide

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minimum obstruction of air currents (with consequent minimum snow fence action) consistent with affording maximum optical interception of glare from approaching vehicles. The figure illustrates how visibility through the fence drops off at greater distances ahead, yet appears to be adequate at closer distances.

For the above reasons, the use of Rustake fencing as a glare screen is not recommended.

OFFICE OF TESTING AND RESEARCH



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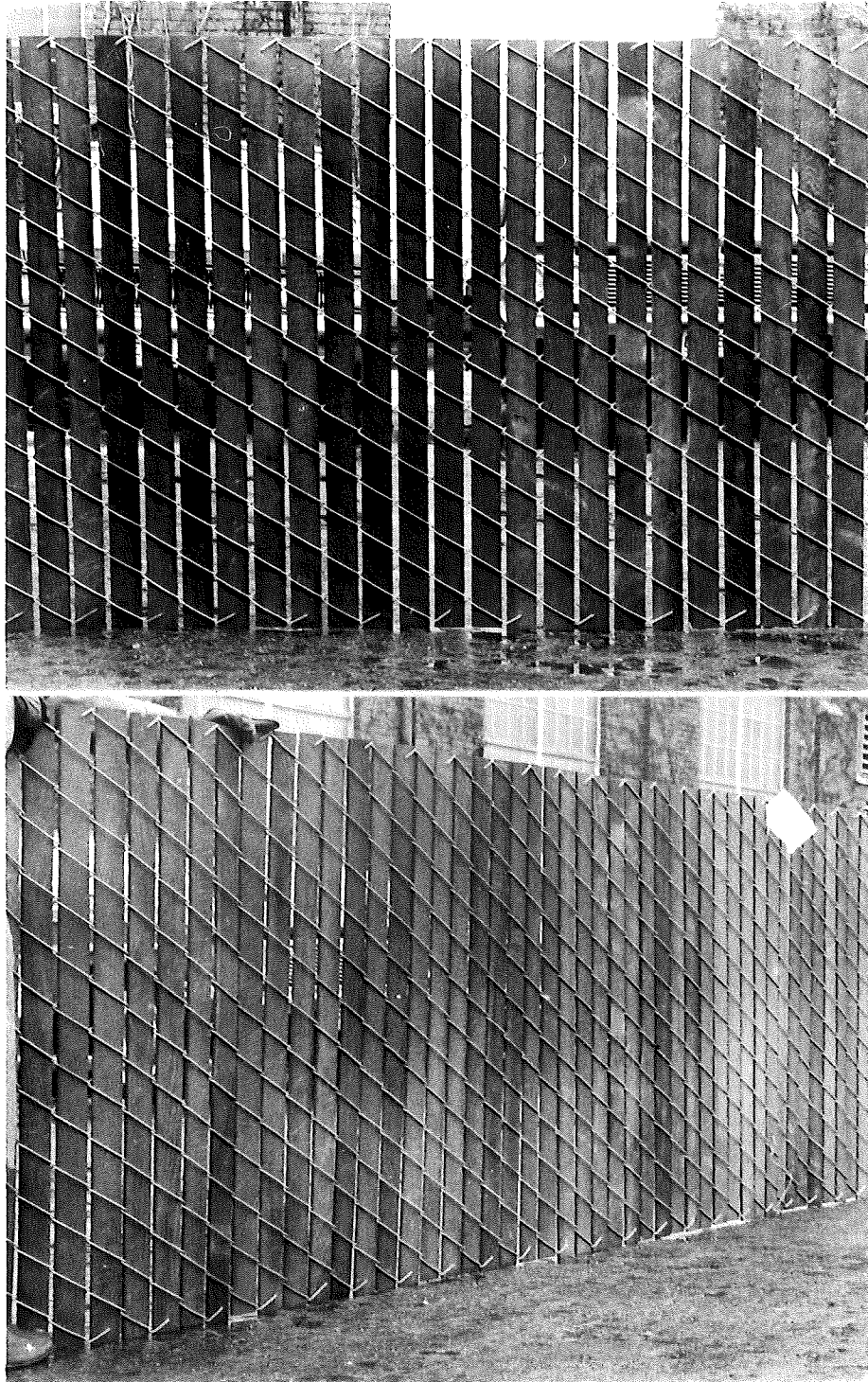


Figure 1. Rustake fencing sample submitted for evaluation of non-glare properties. This fencing is 4-ft high. Note extremely limited view between wood slats even at 90° (above) and zero angle of incidence. Note also the probable effect as a snow fence. When viewed from a 45° angle (below) note rapid drop-off of visibility through fence at larger angles of incidence.

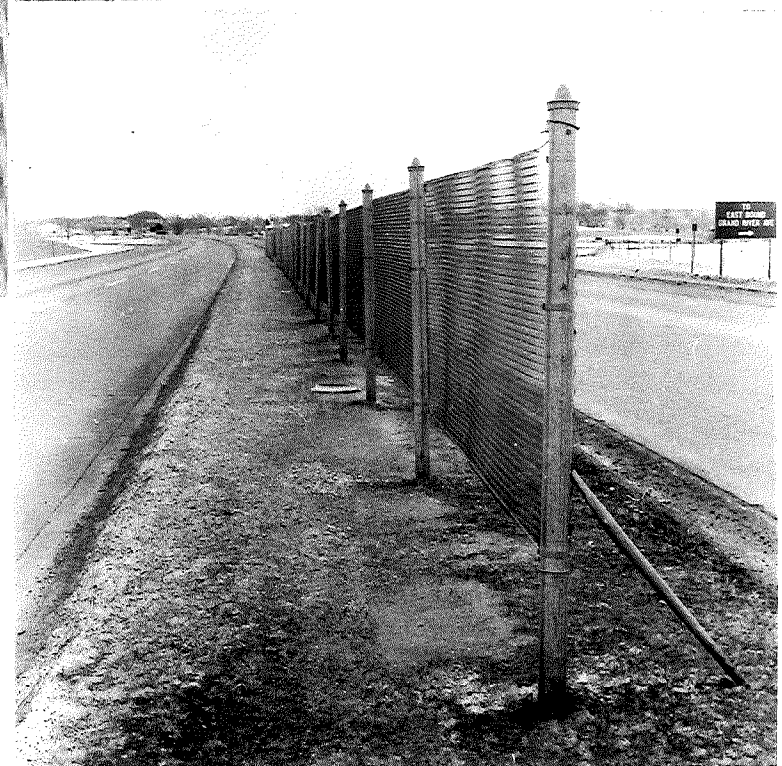
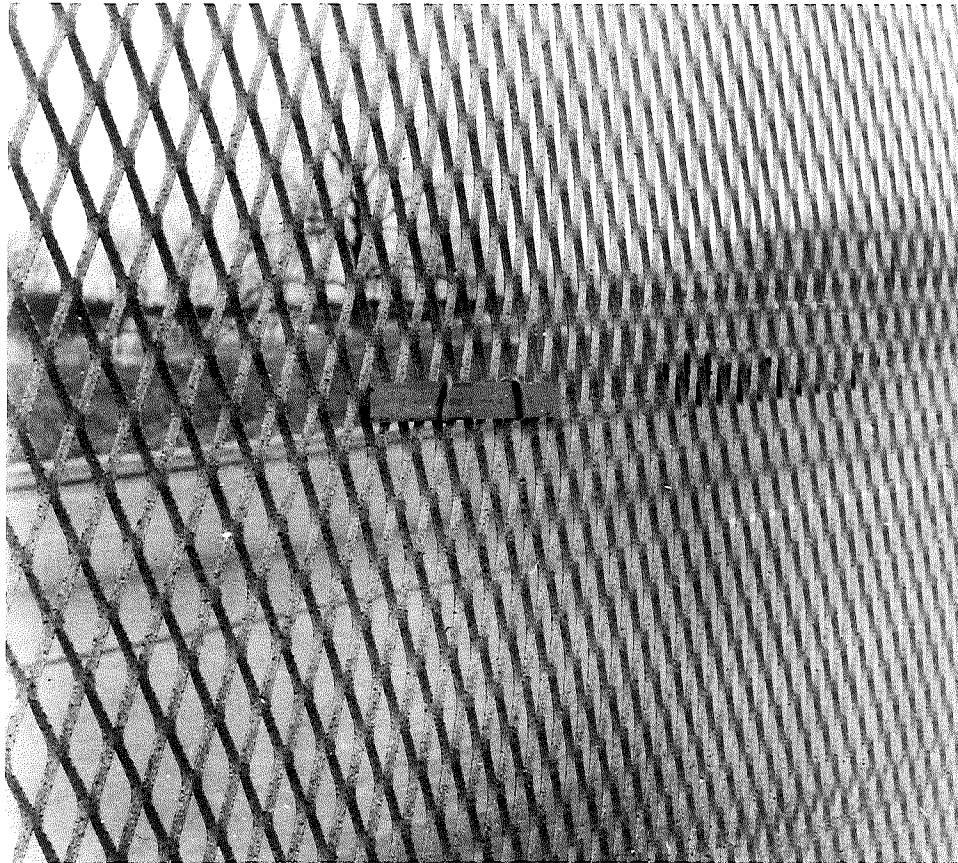


Figure 2. Alcoa non-glare fence. View through fence (top left) shows optical properties and open mesh construction. Scale given by 6-in. ruler. Note how objects seen through fence tend to vanish when looking further toward right, as view becomes obstructed by vanes forming mesh. View at top right also shows optical properties of fence designed to obstruct sight at larger angles of incidence. Note how visibility of objects on other side tapers off to complete obstruction as one looks toward right. Damaged section is in center. Details of installation are shown in bottom view. Bottom of mesh is 15 in. above ice covering ground; top of fence is 5 ft above ice.