

KES

Method of Radiographic Test
for Aluminum Tee Welds

KES T – L468

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Quoted Standard

1. Scope of application

This standard shall specify the method of the X-ray transparent test for aluminum and alloys tee welds.

2. Test Device

- (1) X-ray generator
- (2) Film
- (3) Film densitometer
- (4) Film observer
- (5) Projector and gradient meter → Transparent projector

3. Test piece

Aluminum tee weld

4. Method of photographing the transparent film

4.1 Direction of X-ray irradiation

In principle the transparent film is made by X-ray irradiation along the direction indicated at figure 1.

But if along this indicated direction you don't take a photograph or don't think it as a suitable case, then you may allowed photographing along a suitable direction for each case.

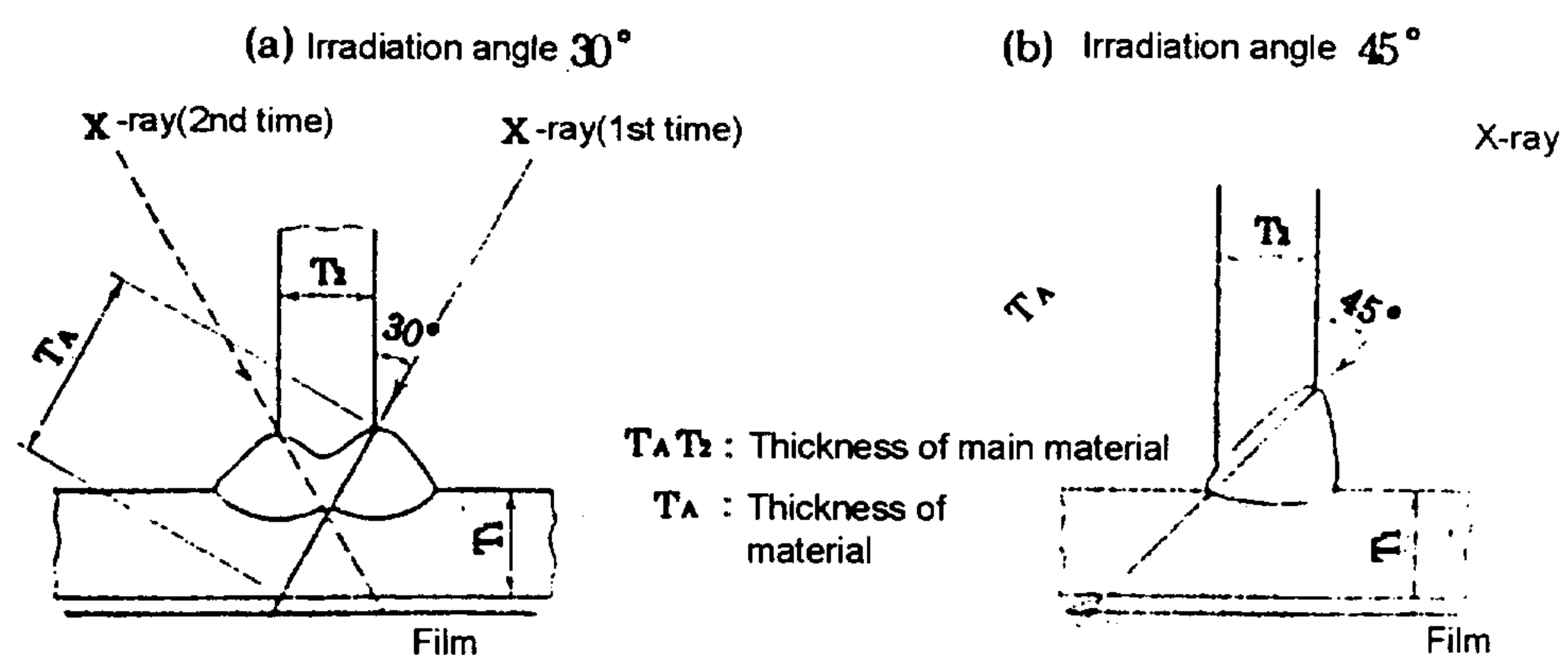


Figure 1. Direction of X-ray irradiation and Thickness of the material

4.2 Thickness of the main and part of material

Thickness of the main and part of material is determined by the specified value of figure 1. But if not in the case, in principle, use $1.1 \times (T_1 + T_2)$ for the case of figure 1(a) or $1.4 \times (T_1 + T_2)$ for the case of figure 1(b) as the part material and use thickness of main material by nominal thickness.

4.3 Use of transparent projector and gradient meter

4.3.1 Take the photograph at the same time with test part by using the transparent projector specified at KS D0242.

4.3.2 Principally for the case of photographing weld part of material with less than 20.0mm use gradient meter specified KS D 2042 and take a photograph of test part at the same time. But under the same case of photographing, make a group of the continuous 10 times or less photographing and use it one more per group.

4.4 Using wedge to compensate for rib thickness

Use wedge at testing part like indication in figure 2 principally to reduce change of rib thickness of testing part for photographing. But, you do not have to use wedge if plate thickness T_2 would be less than $1/3$ of plate thickness T_1 in the case of figure 1(a) and $1/4$ of plate thickness T_1 in the case of figure 1(b). Also, you can use homogeneous radiated ray absorber instead of wedge and notice enough not to occur defect on welding zone on transparent photo and misty shadow.

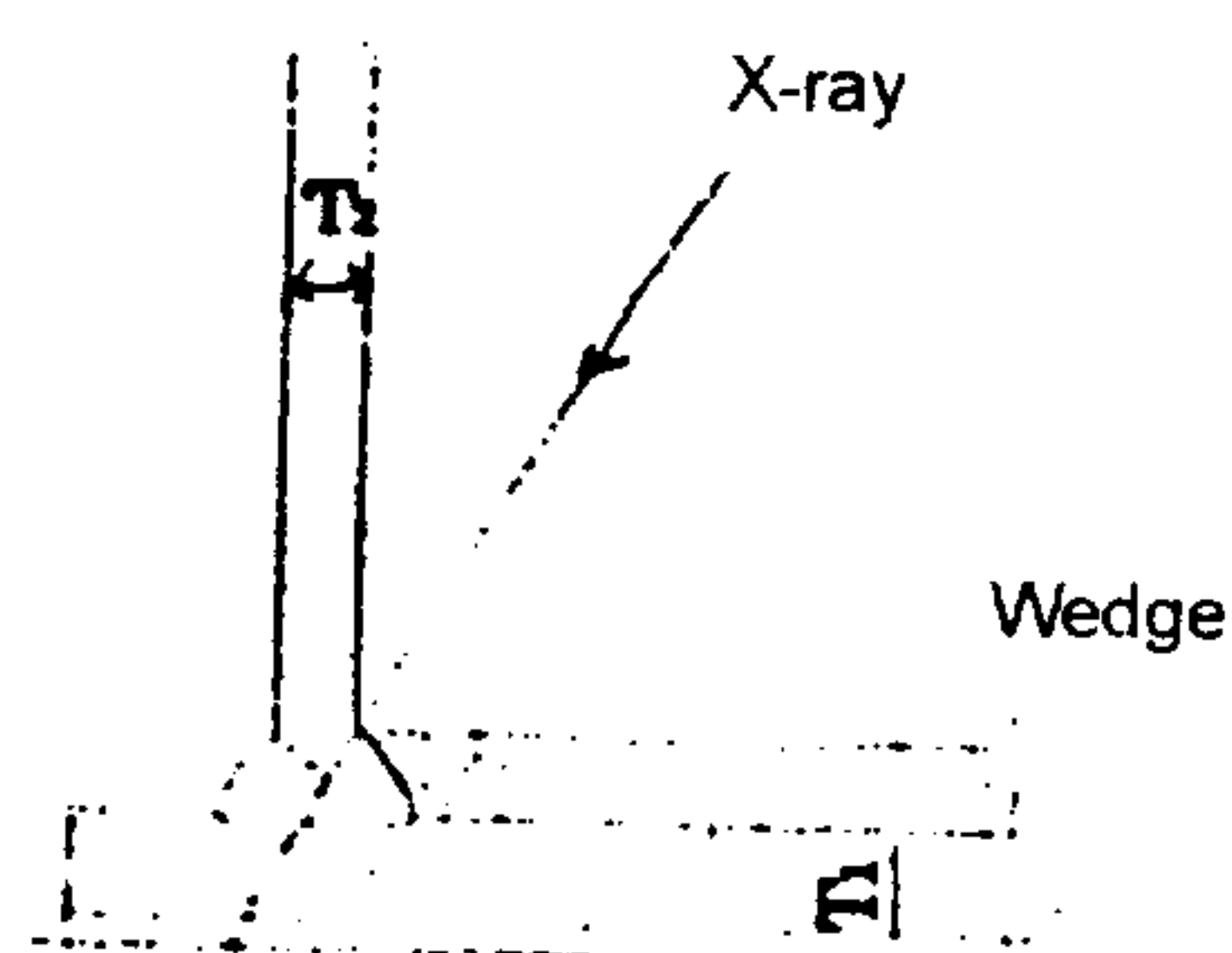


Fig. 2 Wedge to compensate for rib thickness