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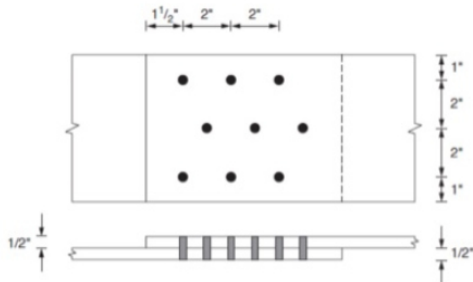
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**Question: Its structural steel design class. please could u use AISC Steel m...**



1. Given: The bolted connection shown is connected with 3/4-in-diameter bolts in standard holes. The plate material is A36 steel.



Find: The effective net area of the plates.

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**Expert Answer**

Anonymous answered this  
 280 answers

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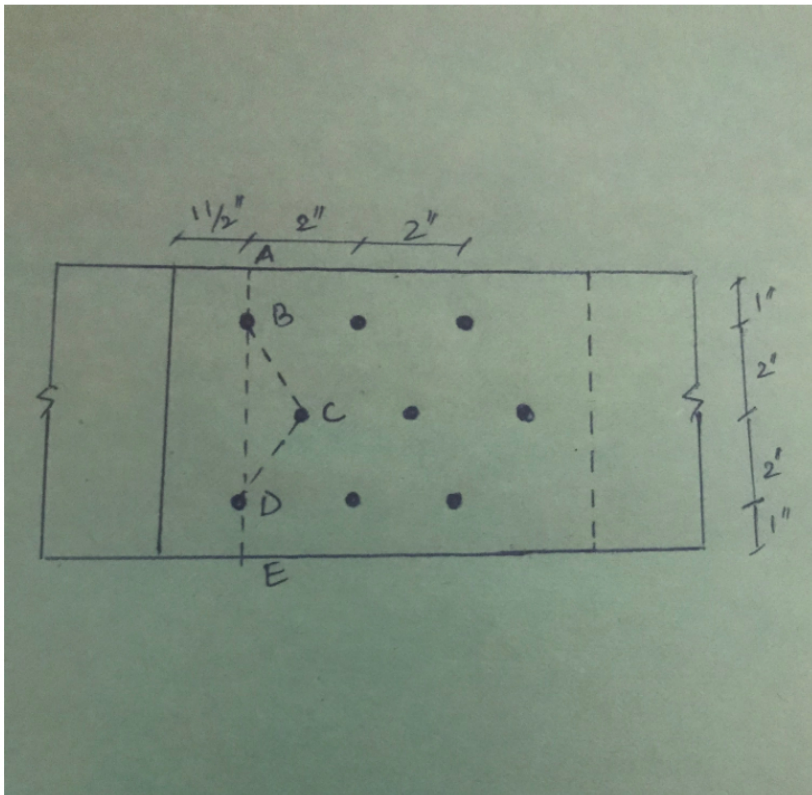
Gross diameter of hole =  $d + 1/16 = 3/4 + 1/16 = 13/16$

The effective net width will be computed along the various chain lines

Staggered pitch  $p = 2$ "

Gauge distance  $g = 2$ "

Refer fig.1

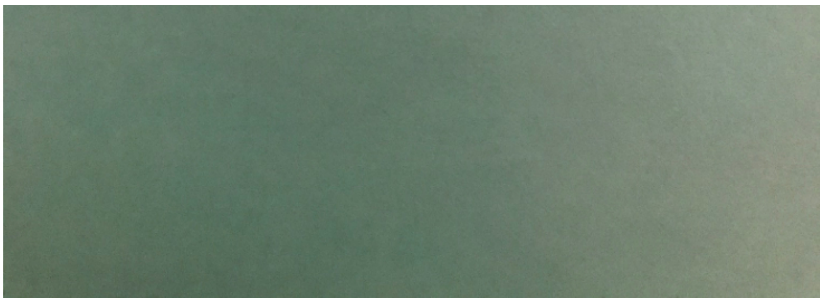


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Net width corresponding to the chain ABDE =  $6 - (2 * 13/16) = 35/8'' = 4.375''$

Net width corresponding to the chain ABCDE

$$= b - nd + n_z \frac{p^2}{4g} = 6 - 3 * \frac{13}{16} + 2 * \frac{2^2}{4 * 2} = \frac{73}{16} = 4.5625''$$


Therefore, minimum net width=4.375"

Effective net area of the plate=4.375" \* 1/2 "=35/16 "

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### Up next for you in Civil Engineering

100 lb 10 in.- 10 in. Problem 4.5: Determine the reactions at A and B when -70° 12 in.



See answer

1. Two plates are to be connected as shown in the figure below: The tension member is X" thick, A36 steel...

1. Two plates are to be connected as shown in the figure below:  
The tension member is X" thick, A36 steel  
The gusset plate is 5/16" thick, A36 steel  
(6) 7/8" diameter A325 bolts  
The threads of the bolts are included in the shear plane  
Deformation of the bolt hole is a consideration

- Check the spacing and edge distances shown versus the AISC requirements.
- Determine the bearing strength of the connection.
- Determine the bolt shear strength of the connection.

See answer

See more questions for subjects you study

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Q: 1. Two plates are to be connected as shown in the figure below: The tension member is X" thick, A36 steel The gusset plate is 5/16" thick, A36 steel (6)-7/8" diameter A325 bolts The threads of the bolts are included in the shear plane Deformation of the bolt hole is a consideration a. Check the spacing and edge distances shown versus the AISC requirements. b. Determine the bearing...

A: See answer  100% (1 rating)

Q: 100 lb 10 in.- 10 in. Problem 4.5: Determine the reactions at A and B when -70° 12 in.

A: See answer

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