



Revision Level			Revision Record	Changed	Date	Approved	Date
Drawing	State	Part					
03.1	Design Release	-	SEE ECN# 015726	NHK	02/13/2020	EJF	02/13/2020

REFERENCE:

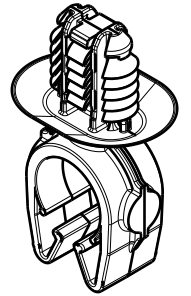
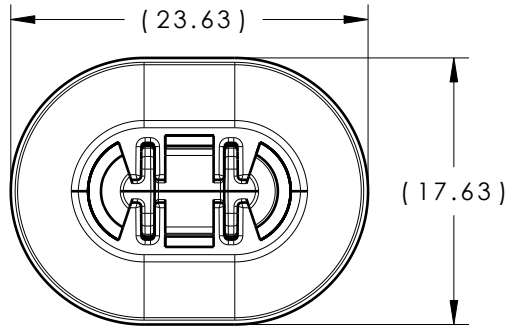
PERFORMANCE REQUIREMENTS AT DRY AS MOLDED:

1. FIR TREE PUSH IN FORCE: 45 NEWTONS (10 LBS) MAX IN EACH APPLICABLE OVAL HOLE SIZE AND A PLATE THICKNESS OF 1.8mm.
2. FIR TREE PULL OUT FORCE: 110 NEWTONS (25 LBS) MIN IN EACH APPLICABLE OVAL HOLE SIZE AND A PLATE THICKNESS OF 1.8mm.
3. SHEET METAL THICKNESS RANGE: 0.60mm - 6.75mm
4. APPLICABLE OVAL HOLE SIZES:
  - A. 6.2 X 12.2mm
  - B. 6.5 X 12.5mm
  - C. 6.5 X 13.0mm
  - D. 7.0 X 12.0mm

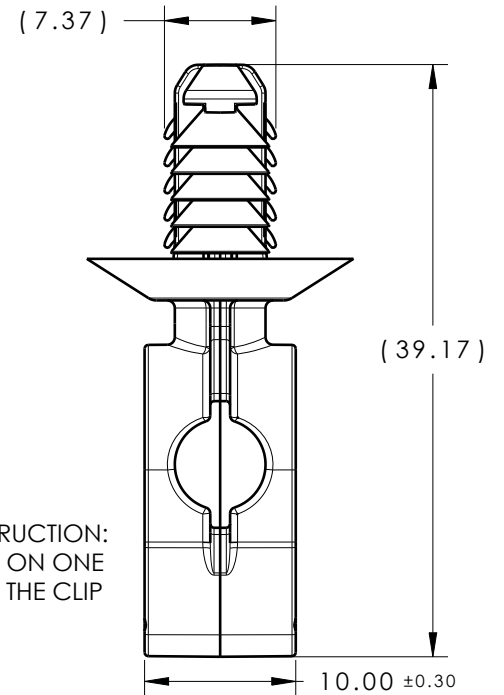
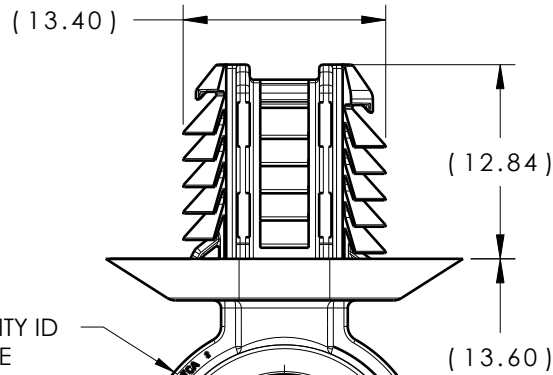
NOTES:

1. MAXIMUM PERCENT REGRIND PERMISSIBLE: 25%
2. MAX ALLOWABLE FLASH TO BE: 0.25mm
3. MAX ALLOWABLE MISMATCH TO BE: 0.1mm

Patents: US D822,476 S, EU 003864313, CN 304373914 S



ISOMETRIC VIEW  
SCALE 1:1



PART DIAMETER, 'TCA', AND CAVITY ID TO BE LOCATED ON THIS SURFACE

Ø 11.90 <sup>+0.20</sup> <sub>-0.40</sub>



ALTERNATE CONSTRUCTION:  
BOSS MAY APPEAR ON ONE  
OR BOTH SIDES OF THE CLIP

DIAMETER RANGE		
HARNESS	HOSE	HARD PIPE/TUBE
11.5MM-13.0MM	10.5MM-13.0MM	12.0MM-13.8MM

GLOBAL PART DESCRIPTION	MATERIAL	COLOR
MOC12FTOVAL-PA66HRISHUV-BK	PA66HIRHSUV	BLACK

Material  
SEE CHART  
COLOR: SEE CHART

Units **millimeters**  
  
Tolerance defined on each dimension

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Drawn CRB 08/04/16  
Approved EJH 09/27/16  
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Article/Type-No MOC12FTOVAL  
Title 12MM (1/2") MOC WITH 6.5 X 12.5MM OVAL FIR TREE  
Drawing-No PRODUCTION : Phase  
**16-0319-010-CSU**

Scale 2:1  
Project Number 16-0319  
Format AH  
Sheet 1/1