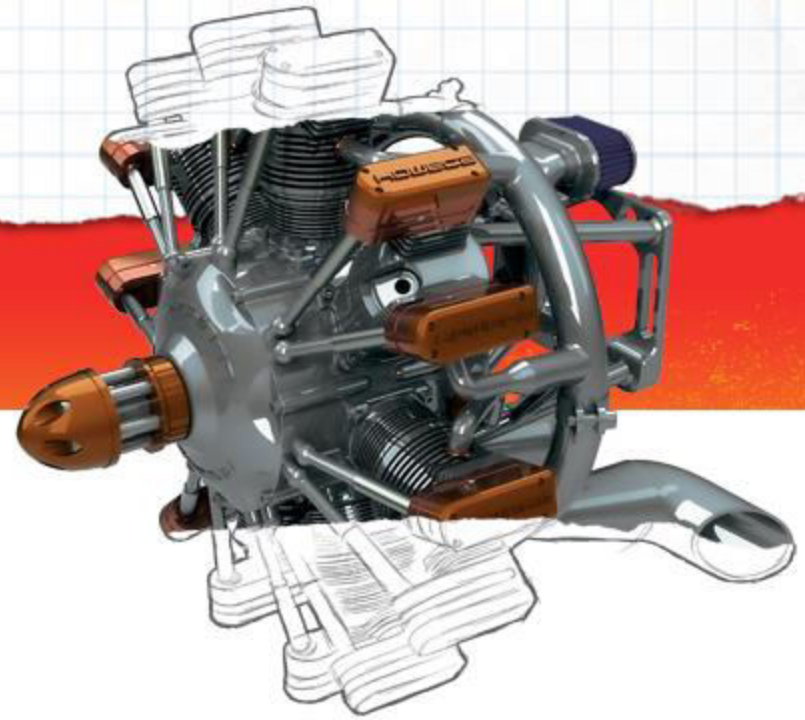


SOLIDWORKS

INNOVATION DAY 2011



sapa:

Customer Talk – Case Study

Sridevi Iyengar
Thermal Design Engineer
SAPA Thermal Management



SOLIDWORKS

Authorized
Reseller

Conceptia **KONNECT**

Product Sales Division - Conceptia

COMPANY Profile.

- Sapa's three core operations are Sapa Profiles, Sapa Building System and Sapa Heat Transfer.
- Sapa Heat Transfer is the globally leading supplier of aluminium strip to the automotive heat-exchanger industry.
- Sapa Profiles is the world's leading producer of extruded aluminium profiles.
- Sapa Profiles has extensive operations for the processing of profiles. Cutting, bending, CNC processing.
- Sapa Building System is one of the four largest suppliers of building systems based on aluminium profiles in Europe.

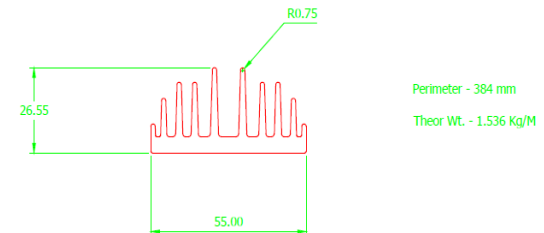
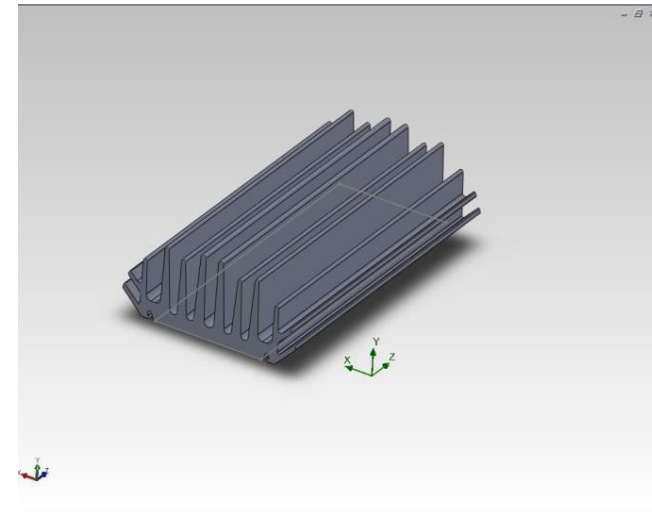
Objective

Challenge:

To determine if the heatsink as shown here has a thermal performance of 2.5 C/W
Heat load is 20W Ambient 20C Natural Convection with Radiation Heatsink made
of Extruded Aluminium

Benefits:

- No Data Loss- as there is CAD Integration
- Ease of Use
- Shortened Design Cycle time by 20%
- Automatic detection of Fluid Volume
- 100% associativity between model and analysis

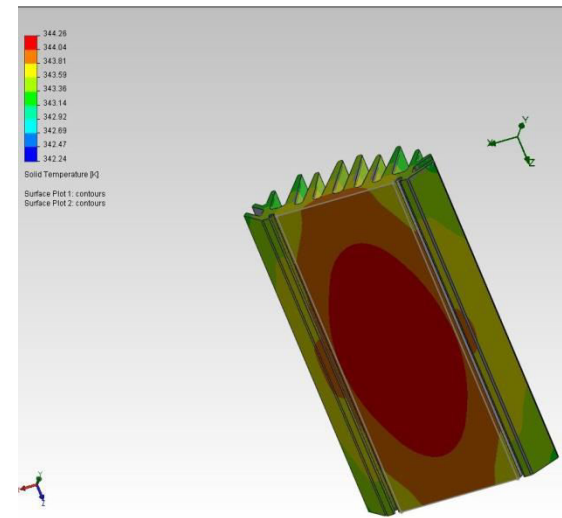
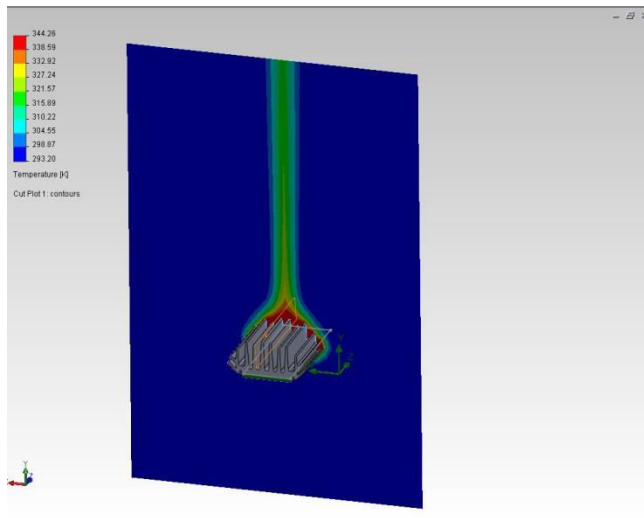


Temperature Contours

- Simulated temperature of the heatsink is 71.1 C (From SolidWorks Flow Simulation)(T_s)
- Ambient is 20 c (T_a)
- Heat Load is 20W (Q)

$$R_{s-a} = \frac{\Delta T_{sa}}{Q} = \frac{T_s - T_a}{Q}$$

Calculated heatsink resistance is 2.56 C/W



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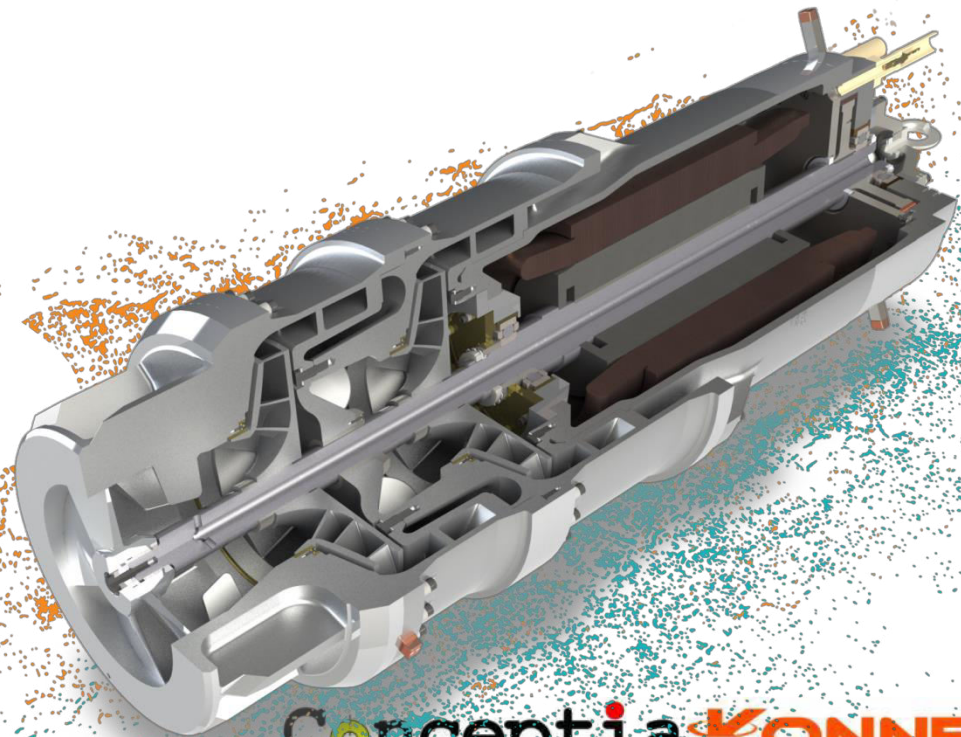


Thank You

*“SolidWorks Flow Simulation is an intuitive
and easy to use tool along with CAD associativity”*

-Sridevi Iyengar,
Thermal Engineer

sapa:



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