

Dew Point Simulation and Analysis of the Heat Melt Compactor Gas Effluent

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The effluent gases and water vapor of the Trash Compaction and Processing System (TCPS) can be vented through the Vacuum Exhaust System (VES) if requirements are met. One of the constraints in this venting scenario is the dew point of the exhaust gases disposed into the VES must be less than 15.5 °C. With simulations using Aspen Plus and the effluent gas sample results of the Heat Melt Compactor (HMC), flash calculations were conducted in the modeling study to calculate the feed temperature and dew point at fixed pressures. Saturated vapor curves were produced and provided a preliminary result on optimal feed conditions that satisfy the dew point and vapor-phase only requirements after flashing across the throttle valve towards the VES.

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