Fire Protection of Concealed Spaces - Cavities

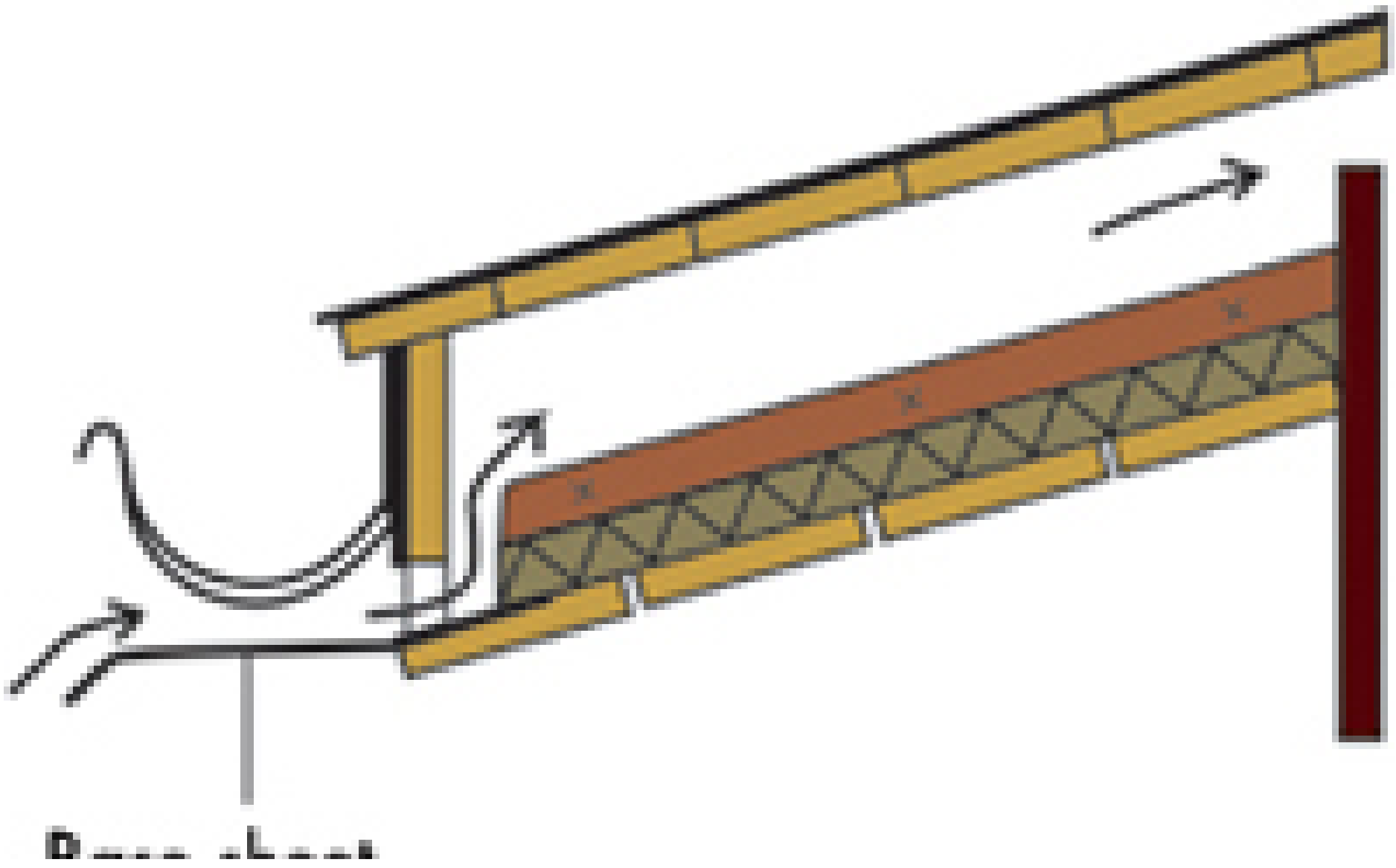
Hidden voids in the construction of a building provide a ready route for the spreading of smoke and flame. This is particularly so in the case of voids above other spaces in a building, such as those above a suspended ceiling or in a roof space and ventilated facades. Because the spread is concealed, it presents a greater danger than would a more obvious weakness in the fabric of the building.
To restrict this hidden movement, interrupt cavities which could form a pathway around fire barriers and sub-divide extensive cavities. The better solution, however, is to use non-combustible materials.

Preventing Destructive Cavity Fires in Detached or Semi-Detached Houses

Windows usually break at the very first stages of a fire. The flames thus easily spread to the attic via the eaves, resulting in a destructive attic fire. Reduce this risk considerably with the following structure:

Residential fires almost always originate from inside the building or from a barbeque, a fire pit or a candle on the patio. In all of these cases, the eave structure of the house is exposed to fire. During the early stages of a fire, the windows break as a result of the heat and the flames then spread through the underside of the eaves to the attic. In a patio fire, the flames generally climb up the wooden wall and into the attic. A cavity fire in the attic area is always highly destructive, as the fire spreads to the entire roof area of the house. The temperature is high, everything burns and all the surrounding buildings are at risk of catching fire as well. The easiest way to prevent a destructive cavity fire is to construct an eaves structure that does not provide an access route for the fire to enter the attic.

Rigid stone wool, such as PAROC WAS 25t, efficiently prevents the fire from spreading to the attic via the eaves. The joints of the stone wool slabs must be designed so that the slab connects tightly to the wall structure. The stone wool prevents the overhead wooden structures from heating and igniting. The insulation does not lose its form in the heat nor allow gaps in the fire protection. The base sheet guides the flames to the outside of the eaves.



base sheet
of the outer chute

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