



## Control Flow Drains

In June 1969, CRCA issued a technical bulletin stating, with reasons, that designers should avoid the use of flow retardant drains. Nothing in the experience of CRCA members since then indicates there should be any change of opinion insofar as the effect on the roof is concerned. The misuse by design authorities of the roof/drain relationship is regrettable. The control flow drain is being used where the only reason is a saving in plumbing costs. While construction savings are laudable, they should not be at the expense of other components of the building. In too many cases the roof drainage and roof construction are not designed to accommodate realistically the delayed water run-off.

Roof slopes are too low, drains are often too few and improperly located, roof projections are too close to low areas and no extra precautions are taken with the membrane construction. In the protected membrane system insufficient care is taken against flotation of insulation especially in low spots. The design authority and the roofing contractor can together neutralize many of the adverse weather proofing characteristics of the control flow drain. However, to do this the total initial roof construction will cost slightly more. This is only logical so let's face it. It is much better than premature failure.

To counteract the inherent dangers in the use of control flow drains, CRCA recommends:

Adequate slopes - at least 1/4"/1'.

- 1) Extra care in locating drains at the low spots and sufficient drains for free flow of water despite such obstacles as expansion joints and control joints.
- 2) Design consideration of the fact that smaller diameter rain water leaders plug more easily.
- 3) Location of roof projections as far as possible from low areas with all projections protected by curbs, flashings and counter flashings. Low profile expansion and control joints should not be used.
- 4) Flashing heights designed to give adequate protection against water entering over the top despite any possible wave action or slush or ice accumulation.
- 5) Metal flashing flange to be supplied and installed with all roof drains.
- 6) Double pour and gravel of all low areas of the roof membrane.
- 7) With the protected membrane system extra ballast over the insulation in all low areas.