Firstly, due to the surface tension that forms between the water droplets and the exterior-surfaces of the cap 40, some of the water is directed to run onto the underside of the cap 40 where it then continues to run along an outward-facing surface 56 of the base wall 46 in a substantially ridge to eave direction.

Secondly, water running along the underside of the cap 40 may be directed, for example due to a sideways wind, towards a roof-facing edge of the base wall 46 and hence towards the gable wall 32.

Thus, water droplets will in practice tend to cling to the underside of the base wall 46 and to run simultaneously in an eave-ward direction and in a roof-ward direction. This results in a particular concentration of water droplets coalescing at the corner of the base wall 46 which defines an intersection between the trailing and roof-facing edges of the base wall 46.

If the cap 40 is positioned tightly up against the gable wall 32, the water droplets may run directly onto the gable wall 32 and then vertically down the side of the building causing staining and potentially giving rise to damp. Alternatively, if the cap 40 is slightly separated from the gable wall 32, the water droplets tend to coalesce along the roof-facing and trailing edges of the base wall 40 until each droplet becomes sufficiently large enough to overcome the surface tension with the outer surface 56 of the base wall 46, at which point the droplets drop down and may be blown onto the gable wall 32 by sideways wind. This can lead to a highly localized staining of the gable wall 32 at the trailing end of the verge cap 40.

It is an object of the present invention to provide a solution that allows precipitation, which has run onto an exterior surface of a dry verge cap to be drained from the roof without causing staining of the gable wall.

SUMMARY OF THE INVENTION

According to a first aspect of the present invention, there is provided a drainage element for use in a drainage system for a sloping perimeter of a pitched roof having a ridge and an eave. The drainage element includes: an opening for receiving a roof covering element at a roof-facing side of the drainage element; a side wall for guarding against ingress of water beneath the roof covering element at an outward-facing side of the drainage element opposite the roof-facing side; and a base wall that extends laterally between the roof-facing and outward-facing sides of the drainage element and longitudinally between leading and trailing edges of the drainage element. The base wall defines an internal drainage surface for draining precipitation internally within the

drainage element in a longitudinal, eave-ward, direction towards the leading edge. The base wall further defines an external-facing surface opposite the internal drainage surface. The drainage element is intended to be arranged with the base wall angled downwardly towards the leading edge, in use, for draining precipitation along the internal drainage surface and external-facing surface in a longitudinal, eave-ward, direction towards the leading edge. The base wall is provided with a flow-directing means in the form of a tension disrupting surface configured to disrupt the surface tension of water flowing longitudinally along the external-facing surface of the base wall towards the leading edge to direct the water in a lateral direction towards the outward-facing side of the drainage element. The ~~flow directing means comprises a~~ tension-disrupting surface is~~,~~ arranged on the base wall at an angle to a longitudinal axis of the drainage element.

By virtue of the external flow directing means on the base wall, water flowing longitudinally along the external-facing surface of the base wall is directed in a lateral direction towards the outward-facing side of the drainage element. Thus, water on the underside of the base wall will tend to accumulate at the outward-facing side of the drainage element, rather than the roof-facing side. Hence water will congregate on the underside at a location that is displaced away from the gable wall of the roof. When the water builds up enough volume to drop from the undersurface, it will drop from the location that is displaced away from the gable wall. Thus, the falling water will not fall down the gable wall as it drops, thereby guarding against localised staining of the gable wall, and against issues that arise from damp and moisture.

The tension-disrupting surface may be defined by at least a portion of an end surface of a leading edge of the base wall such that the flowing water tends to cling to the tension-disrupting surface. In particular, the tension-disrupting surface may be configured to attract water molecules such that the flowing water tends to cling to the tension-disrupting surface. Defining the tension-disrupting surface using the end surface of a leading edge of the base wall is particularly advantageous, as it allows the tension-disrupting surface to be defined without the need for complex features to be moulded into the external surface of the base wall.

The tension-disrupting surface may be substantially perpendicular to the external-facing surface of the base wall.

The tension-disrupting surface may extend across at least half of the width of the base wall.

CLAIMS

1. A drainage element for use in a drainage system for a sloping perimeter of a pitched roof having a ridge and an eave, the drainage element including:

an opening for receiving a roof covering element at a roof-facing side of the drainage element;

a side wall for guarding against ingress of water beneath the roof covering element at an outward-facing side of the drainage element opposite the roof-facing side; and

a base wall that extends laterally between the roof-facing and outward-facing sides of the drainage element and longitudinally between leading and trailing edges of the drainage element, and defines an internal drainage surface for draining precipitation internally within the drainage element in a longitudinal, eave-ward, direction towards the leading edge and an external-facing surface opposite the internal drainage surface,

wherein the drainage element is intended to be arranged with the base wall angled downwardly towards the leading edge, in use, for draining precipitation along the internal drainage surface and external-facing surface in a longitudinal, eave-ward, direction towards the leading edge,

~~;~~

wherein the base wall is provided with a flow-directing means in the form of a tension disrupting surface configured to disrupt the surface tension of water flowing longitudinally along the external-facing surface of the base wall towards the leading edge to direct the water in a lateral direction towards the outward-facing side of the drainage element, and

wherein the ~~flow-directing means comprises a~~ tension-disrupting surface is~~,~~ arranged on the base wall at an angle to a longitudinal axis of the drainage element.

2. The drainage element of Claim 1, wherein the tension-disrupting surface is defined by at least a portion of an end surface of a leading edge of the base wall such that the flowing water tends to cling thereto.

3. The drainage element of Claim 1 or Claim 2, wherein the tension-disrupting surface is substantially perpendicular to the external-facing surface of the base wall.

4. The drainage element of Claim 3, wherein the tension-disrupting surface extends across at least half of the width of the base wall.

5. The drainage element of Claims 2 to 4, wherein the end surface comprises an

oblique portion that defines the tension-disrupting surface, wherein the oblique portion is non-perpendicular to the longitudinal axis of the drainage element.

6. The drainage element of Claim 5, wherein the end surface further comprises a lateral portion that is substantially perpendicular to the longitudinal axis of the drainage element.

7. The drainage element of Claim 6, wherein a junction between the lateral portion and the oblique portion defines an accumulation point of the end surface.

8. The drainage element of any of Claims 2 to 7, wherein the base wall defines a roof-facing edge at the roof-facing side of the drainage element and the end surface meets the roof-facing edge at an oblique angle.

9. The drainage element of any preceding claim, wherein the internal drainage surface of the base wall is provided with an internal flow-directing means configured to direct water flowing longitudinally along the internal drainage surface of the base wall in a lateral direction towards the side wall of the drainage element,

wherein the internal flow-directing means comprises an internal ridge protruding from the internal drainage surface of the base wall.

10. The drainage element of Claim 9, wherein the intersection between the internal ridge and a roof-facing edge of the base wall defines a substantially oblique angle.

11. The drainage element of Claim 9 or Claim 10, wherein the base wall comprises a plurality of internal ridges arranged in mutual alignment.

12. The drainage element of any of Claims 9 to 11, wherein the or an internal ridge is located at a leading edge of the base wall.

13. The drainage element of Claim 12, wherein the internal ridge that is located at a leading edge of the base wall is aligned with a leading edge of the base wall.

14. The drainage element of any one of Claims 7 to 13, wherein the or each internal flow-directing means extends only partially across the internal surface of the base wall in a lateral direction, to define a free-flowing region of the internal drainage surface that is free from internal ridges when moving in a longitudinal direction.

15. The drainage element of Claim 14, when dependent on Claim 7, wherein the free-flowing region of the internal drainage surface aligns laterally with the accumulation

point of the end surface of the base wall.

16. The drainage element of any preceding claim, comprising an upper wall parallel to the base wall, the upper wall extending from the side wall towards the roof-facing side of the drainage element.

17. The drainage element of Claim 16, wherein the upper wall is configured, in use, to lie on an upper surface of the roof covering element.

18. The drainage element of any preceding claim, wherein a trailing end portion of the drainage element is configured to be received within a leading end portion of an identical drainage element when a plurality of such elements are arranged for use in a roof.

19. The drainage element of Claim 18, wherein the trailing end portion of the drainage element is narrower and/or shallower than the leading end portion of the drainage element.

20. The drainage element of Claim 19, wherein the side wall and base wall have a stepped profile to define the narrower and/or shallower trailing end portion of the drainage element.

21. A pitched roof structure having an upper ridge and a lower eave, the pitched roof structure comprising:

an underlying roof structure covered by a plurality of roof covering elements and defining a sloping perimeter;~~,~~ and a drainage system provided at the sloping perimeter,

wherein the drainage system comprises a plurality of drainage elements according to any preceding claim,

wherein the plurality of drainage elements are angled substantially parallel to the sloping perimeter such that the leading edge of each drainage element is lower than the trailing edge, and

wherein the drainage elements are~~being~~ interconnected to provide a drainage body defining a longitudinal drainage platform for draining precipitation in a longitudinal, eave-ward direction.

22. The pitched roof structure of Claim 21, wherein the drainage elements are configured such that a trailing end of a comparatively eave-ward drainage element is received inside a leading end of a neighbouring, comparatively ridge-ward drainage element.