

Shear Quality or Fracture Character with an Extended Column Test – No Longer in SWAG or SnowPilot



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The 3rd Edition of Snow, Weather and Avalanches: Observation Guidelines for Avalanche Programs in the United States (SWAG) was published in the summer of 2016 with a few updates. One notable change is the removal of Shear Quality (SQ) and [Fracture](#) Character (FC) for the Extended Column Test (ECT) and the [Propagation](#) Saw Test (PST). This change has caused consternation with some professionals, including SnowPilot users who no longer have this field alongside the ECT.

The reason to remove it is simple: SQ and FC were developed as a proxy for crack [propagation](#) . With the addition of the Extended Column and [Propagation](#) Saw Tests, the proxy is no longer needed. The ECT and PST aim to provide a direct index of crack [propagation](#) . Recording SQ/FC adds nonessential and redundant information to the already complicated task of evaluating slope [stability](#) .

Some SnowPilot users would like to use SQ as a way to describe the motion of an ECT after [fracture](#) . However, with an ECT, the movement of the block into the pit does not depend on crack [propagation](#) propensity, but rather on the balance between slope angle and friction. Given a steep enough slope, the ECT block will almost always [slide](#) regardless of crack [propagation](#) propensity. On the other hand, on low angle slopes an ECT block will remain in place even with a Sudden [Fracture](#) or Q1 shear. SQ/FC is not – and was never meant to be – a good test to demonstrate block movement, since it relies on slope angle vs. friction rather than crack prop [propagation](#) propensity. Instead, we encourage people to describe the block motion in plain language whenever it is needed.

SnowPilot allows the observer to include comments on a specific [snowpit](#) test and for the snow profile as a whole. These are very useful features and allow the observer to document notable observations that don't fit into one of the standard coded fields.

[SQ or FC with an ECT.pdf](#)

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