

Abstract of the Disclosure

A device includes a plurality of microneedles for abrading the stratum corneum of the skin to form a plurality of grooves in the tissue having a controlled depth and width. The microneedles have a
5 length of about 5-250 microns and generally about 5-200 microns. The device is rubbed over the skin to prepare an abraded site after which a transdermal delivery or sampling device is applied to the abraded delivery site. The abrasion increases the permeability of the
10 skin and the rate of delivery and extraction of a substance without pain or irritation to the patient.

This Sheet Has Been Replaced

