

## BRAKING ACTION

### PIREPS

When braking action conditions less than Good are encountered, pilots are expected to provide a PIREP based on the definitions provided in the table below. Until FAA guidance materials are revised to replace the term "Fair with Medium", these two terms may be used interchangeably. The terms "Good to Medium" and "Medium to Poor" represent an intermediate level of braking action, not a braking action that varies along the runway length. If braking action varies along the runway length, such as the first half of the runway is Medium and the second half is Poor, clearly report that in the PIREP (e.g., "first half Medium, last half Poor").

### CORRELATING EXPECTED RUNWAY CONDITIONS

The correlation between different sources of runway conditions (e.g., PIREPs, runway surface conditions and Mu values) are **estimates**. Under extremely cold temperatures or for runways that have been chemically treated, the braking capabilities may be better than the runway surface conditions estimated below. When multiple sources are provided (e.g., braking action medium, runway covered with ice and runway Mu is 27/30/28) conflicts are possible. If such conflicts occur, consider all factors including data currency and the type of airplane a PIREP was given from. A valid PIREP or runway surface condition report are more reliable indicators of what to expect than reported runway Mu values.

### Runway Friction Mu Reports

Mu values in the U.S. are typically shown as whole numbers (40) and are equivalent to the ICAO standard decimal values (.40). Zero is the lowest friction and 100 is the highest Mu friction. When the Mu value for any one-third decimal of an active runway is 40 or less, a report should be given to ATC by airport management for dissemination to pilots. The report will identify the runway, the time of measurement, the type of friction measuring device used, Mu values for each zone and the contaminant conditions (e.g., wet snow, dry snow, slush, deicing chemicals). While the table below includes information published by ICAO correlating runway friction measurements to estimated braking actions, the FAA cautions that **no reliable correlation exists**. Runway Mu values **can vary significantly** for the same contaminant condition due to measuring techniques, equipment calibration, the effects of contamination on the friction measuring device and the time passage since the measurement. **Do not** base landing distance assessments solely on runway Mu friction reports. If Mu is the only information provided, attempt to ascertain the depth and type of runway contaminants to make a better assessment of actual conditions.

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Term	Braking Action	Runway Surface Condition	Estimated Correlations	
			ICAO Code	Mu
Good	Braking deceleration is normal for the wheel braking effort applied. Directional control is normal.	<ul style="list-style-type: none"> <li>• Water depth of 1/8" or less</li> <li>• Dry snow less than 1/2" in depth</li> <li>• Compacted snow with OAT at or below -15°C</li> </ul>	5	40 & above
Good to Medium			4	39 - 36
Medium (Fair)	Braking deceleration is noticeably reduced for the wheel braking effort applied. Directional control may be slightly reduced.	<ul style="list-style-type: none"> <li>• Dry snow 1/2" or greater in depth</li> <li>• Sanded snow</li> <li>• Sanded ice</li> <li>• Compacted snow with OAT above -15°C</li> </ul>	3	35 -30
Medium to Poor			2	29 - 26
Poor	Braking deceleration is significantly reduced for the wheel braking effort applied. Potential for hydroplaning exists. Directional control may be significantly reduced.	<ul style="list-style-type: none"> <li>• Wet snow</li> <li>• Slush</li> <li>• Water depth more than 1/8"</li> <li>• Ice (not melting)</li> </ul>	1	25 - 21
Nil	Braking deceleration is minimal to non-existent for the wheel braking effort applied. Directional control may be uncertain.  <i>Note: Taxi, takeoff, and landing operations in Nil conditions are prohibited.</i>	<ul style="list-style-type: none"> <li>• Ice (melting )</li> <li>• Wet ice</li> </ul>	9	20 & below

*Note: The ICAO term "Unusable" supersedes Nil.*