

SoMat eDAQ System Proves Durability!

In order to get realistic strain from the wheel rim of a 30-ton mining truck the eDAQ system was chosen. Strain gages were laid at key areas of the wheel rim while the wheel assembly was off the vehicle. Small diameter transducer wires were attached to the gages and fed through the valve stem hole in the wheel disc. Wheel assembly was installed onto the axle and a custom designed bracket to hold the eDAQ system and a 12V sealed battery was attached to the wheel assembly (see photo). Gages were zeroed with the weight off of the vehicle and measurements were taken while the wheel assembly was lowered to the ground inducing full vehicle weight onto the structure. The eDAQ system with its 16 bit resolution had adequate sensitivity to monitor these loads and also the hoop stress as the tire was deflated.



Field measurements were done under actual mining conditions in Northern, Ontario, Canada. Analysis of the data showed adequate strength and fatigue life of the current wheel rim design. Field testing of the wheel assembly involved both loaded and unloaded conditions. While in the



unloaded condition, the eDAQ was exposed to maximum road speeds. This mining application combined many severe operating conditions such as vibration, dust, moisture and the eDAQ field computer system performed flawlessly.

For further information and/or other application scenarios of the SoMat eDAQ system, please contact us at info@patech.net

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