

TEMISA — Sample test report

Cutter motor rewind · Joy part number 600128-0735 · 250 HP · 950 V

Data from an actual rebuild completed in March 2026 for an underground mine in Mexico (customer name withheld). Values transcribed from TEMISA technical report TMS-CL-RE-02 Rev. 5, work order 2878. Serial number omitted.

1. Nameplate data

Part number	600128-0735
Power	250 HP
Voltage	950 V
Current	145 A
Speed	1,775 rpm
Frequency	60 Hz
Frame	20B350J

2. As received

Test	Result	Criterion	Diagnosis
Phase resistance (IEEE 1415)	0.223 / 0.224 / 0.226 Ω — 1.3%	< 3% unbalance	Good
Insulation resistance, 1 min at 70 VDC (IEEE 43)	0.03 M Ω	> 100 M Ω	Dangerous — winding grounded
Bearings	NU 217 EC (DE), 6315/C3 (ODE)	—	Damaged
DE bearing housing fit (EASA AR100)	Out of tolerance	AR100	Repair
Rotor growler test	No open bars	—	Good
Shaft runout	No deflection	—	Good

3. Work performed

- Stator rewound with new form-wound coils, Class H insulation.
- Dehydration, insulating varnish and controlled oven cure.
- Drive-end bearing housing fit restored.
- New bearings NU 217 EC (DE) and 6315/C3 (ODE), induction-mounted and lubricated; new seals.
- Rotor dynamically balanced.
- Static and dynamic tests recorded before release.

4. Final static tests

Test	Result	Criterion	Diagnosis
Phase resistance (IEEE 1415)	116.2 / 116.2 / 116.2 mΩ — 0.0%	< 3% unbalance	Good
Insulation resistance, 1 min at 510 VDC (IEEE 43)	6,700 MΩ	> 100 MΩ	Good
Dielectric absorption ratio	1.89	> 1.5	Good
Polarization index	7.94	> 2.0	Good
Step-voltage hi-pot, final step (IEEE 95)	5,103 VDC — 7,980 MΩ	> 100 MΩ	Good
Leakage current at 5,103 VDC	0.640 μA	< 1 mA	Good
Surge comparison at 3,930 V (IEEE 522)	EAR L-L 0% / 0% / 0%; P-P 4% / 5% / 5%	L-L < 3%, P-P < 10%	Good
RTDs (3)	108.2 / 108.4 / 108.8 Ω at 21–22 °C	—	Good

5. Step-voltage hi-pot detail

Step	Voltage	Current	Insulation resistance
1	1,020 VDC	0.147 μA	6,930 MΩ
2	2,041 VDC	0.235 μA	8,690 MΩ
3	3,062 VDC	0.375 μA	8,160 MΩ
4	4,083 VDC	0.506 μA	8,070 MΩ
5	5,103 VDC	0.640 μA	7,980 MΩ

6. Rotor balance

Plane	Initial	Final
A	20.0 g	2.0 g
C	31.0 g	2.0 g

Balancing speed 450 rpm, rotor without peripherals.

7. Final run test

Parameter	Result
Time energized	60 min
No-load current at 760 VAC	35.1 / 36.9 / 38.8 A
Temperatures (ambient 28 °C)	DE 56.1 °C · ODE 68.1 °C · frame 42.1 °C
Vibration, max. (criterion < 0.11 in/s)	0.04 in/s — Good

The explosion-proof enclosure, flame-path surfaces, lead entrances and mounting dimensions were not modified. Before a rebuilt explosion-proof motor returns to service underground, the mine's qualified electrical person inspects it as MSHA regulations require.

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