



Des-Case LE-4 Breathers

Large PVC Manufacturing Plant in Central Georgia

- **Controlled contamination and water from entering the extruder gearboxes**
- **Saved a \$40,000 gearbox from failing**

Customer Profile

A large PVC manufacturing plant that manufactures a broad range of PVC pipe products servicing primarily the plumbing and DIY (do-it-yourself), and underground markets.

Application

The plant uses Cincinnati Milacron and Eisenbeiss extruders to manufacture PVC pipe at various sizes. The extruders had standard factory installed breathers that only control large dirt and dust particles from entering the gearbox reservoirs. The plant operates in a dusty environment with temperatures of 120°F (49°C) in summer and 50°F (10°C) in winter.

Challenge

After reviewing LEAPSM oil analysis reports with particle counts and Karl Fischer water levels at critical level 4, the maintenance manager wanted to reduce the contamination entering his extruder gearboxes.

LE Solution & Results

Mark D. Jones, LE lubrication consultant, recommended using the Des-Case LE-4 desiccant breathers to control contamination and water from entering the extruder gearboxes. The LE-4 breathers also show maintenance personnel if the water is entering or leaving the equipment. The breathers will change color on the top indicating moisture coming from within the reservoirs. If the breather changes color from the bottom then it is stopping outside moisture from entering the extruder.

One of the concerns was how long do the breathers last once they are installed on the gearboxes. Mark explained that when they are first installed they last 1 to 3 months depending on the amount of water in the gearboxes or



16 months of protection



15 months of protection

the amount of ambient moisture in the environment in which they are operating. Look at the photos above, these breathers lasted 16 months and 15 months. Only four plugs were removed from the bottom of the breather.

The LE-4 Desiccant Breathers helped identify water in an extruder and was recognized as saving a \$40,000 gearbox from failing. Two months after they were installed, the maintenance manager called Mark and said he had used four breathers in a weekend. Mark explained this was very unusual. Mark asked if all 31 gearboxes were changing.



The maintenance manager replied, “No only line #9 was changing.” After further investigation, the manager found that the internal heat exchanger was leaking water into the oil reservoir causing the breather to change color. The Duolec® Vari-Purpose Gear Lubricant had not yet emulsified with the water and it was still red.

Other Products Used

- Duolec® Vari-Purpose Gear Lubricants (1606-1607)
- Monolex® Penetrating Oil & Lubricant (2059)
- Monolec® Multiplex Lubricant (4622)
- 4946 All-Purpose Turbine Oil (4946)
- Monolec® Hydraulic Oil (6110)
- Monolec® R & O Compressor / Turbine Oil (6405)
- Syntemp® Synthetic Lubricant (9102)
- Oil Safe® containers
- Checkfluid sampling ports
- Des-Case® Flowguard filter cart

Thank you to the management team, and to Mark D. Jones, LE lubrication consultant (pictured), for providing the information used in this report.



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Based on actual user experience. Individual results may vary. Not intended to supersede manufacturer specifications.

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