

Metal Braided Flexible Hoses

These common plumbing fittings are a ticking time bomb that can be found in almost any property.



What are they?

Hydraulic hoses, typically rubber or plastic, that are covered in a braided metal skin that provides additional strength and protection.

Where are they found?

Metal braided flexible hoses first started finding their way into the domestic market roughly 20 years ago. They are generally used to connect sinks, basins, toilets, etc. to a water supply rather than more expensive hard piping connections.

Why are they a concern?

The hoses have a limited lifespan and when they fail, they release a stream of water until the upstream supply can be isolated. Insurance company research has revealed that more than one in five water damage claims lodged by Australian households in 2016 were directly attributed to the failure of metal braided flexible hoses¹.

Why do they fail?

- the use of inferior (cheap) materials
- product selection and installation guidelines not being followed
- the hose is subjected to elevated temperatures and pressures (greater than 50 °C – common in many hot water systems)
- a lack of maintenance
- old age.

¹ Flexible braided pipes responsible for more than 20 per cent of water damage claims, Sydney Morning Herald, 4 May 2017.



How do they fail?

- Partial failure – a small hole/fracture occurs in the internal pipe wall with a small water leak penetrating through the external metal braided hose.
- Catastrophic failure – almost simultaneous internal pipe and external metal braid failure resulting in a near or complete and continuing water escape.

What can be done?

- Eliminate the risk – ideally, replace all metal braided flexible hoses with hard piping.
- Minimise the likelihood – replacement may not be practical in all cases. Proactive actions that can reduce the chances of the hose failing include:
 - ensuring product selection and installation guidelines are correctly followed
 - a regular inspection & maintenance program
 - a hose retirement/replacement protocol – preferably all hoses should be replaced before they reach five years of age.
- Minimise the consequences – even with the above risk management controls in place, hose failure may still occur. To help with swift isolation of the water supply a manual water supply closure valve that incorporates an auto reset flood stop mechanism can be installed on the upstream supply.

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