

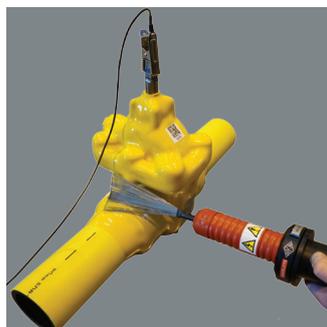
# DONKIN POLYURETHANE COATING PERFORMANCE TESTS

STANDARD	BS EN 10290	T/SP/CW/6-2	DONKIN IN-HOUSE TESTS	
	Steel tubes and fittings for onshore and offshore pipelines	Specification for the external protection of steel line pipe and fittings using fusion bonded powder and associated coating systems — Part 2: Factory applied coatings.	Additional tests	Donkin Polyurethane coating test results
<b>MINIMUM THICKNESS</b>	Class A 1000 microns Class B 1500 microns	Minimum 1500 microns		Min. coating thickness measured $\geq 1500$ microns (Coated in accordance with BS EN 10290 class B)
<b>HOLIDAY DETECTION</b>	8 volts per micron with max of 20kV	125 volts per 25 microns (i.e. 5 volts per micron)	Test at 20kV	No holidays detected at 20kV
<b>IMPACT RESISTANCE</b>	5 Joules per mm (1500 microns) of coating at 23°C. This equates to a minimum of 7.5 Joules (1.5 x 5) at 23°C. In layman's terms this is equivalent to dropping a M24 spanner from a height of 0.83 metres	5 Joules at 23 °C		No visual damage or holidays detected with a 3.5kg bar with 25mm spherical tip up to 2.09m at 23°C (72 Joules). This is equivalent to dropping a M24 spanner from a height of 7.98 metres at 23°C.
	3 Joules per mm of coating at -5°C.			No visual damage or holidays detected up to 1.7m at -5°C (58.4 Joules).
<b>CHIP TEST (SIMULATE BACK FILLING)</b>			Drop 16kg of nominal 14mm diameter rounded stones from 2 metres. Perform holiday test. Repeat. The coating must be able to withstand 2 drops in succession.	No visual damage or holidays detected.
<b>DROP TEST</b>			Roll valve (71kg) off pallet (145mm height) and check for visual impact damage and holidays.	No visual damage or holidays detected when tested up to 97 Joules.

**MINIMUM COATING THICKNESS**



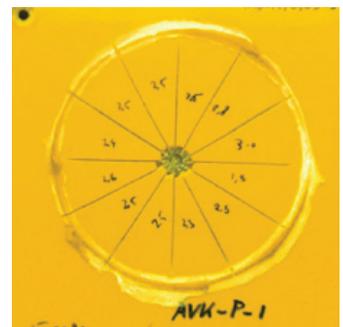
**HOLIDAY DETECTION**



**ADHESION - PULL OFF TEST**



**CATHODIC DISBONDMENT**



**EXPECT TOTAL SAVINGS**

**EXPECT QUALITY IN EVERY STEP**