40-700 ESCR-Tester

Standards

ASTM D 1693

10-Station-Device

50-Station-Device

Tools

Application

The ESCR test measures the susceptibility of ethylene plastics to environmental stress-cracking. Under certain conditions of stress and in the presence of environments such as soaps, wetting agents, oils or detergents, ethylene plastics may exhibit mechanical failure by cracking. Bent specimens of the plastic, each having a controlled imperfection on one surface, are exposed to the action of a surface-active agent. The proportion of the total number of specimens that crack in a given time is observed.

Features

The ESCR tester comprises a temperature bath with a test tube racks holding up to 10/50 test tubes. Each test tube has space for 10 specimens. For sample preparation, a notching unit with natching blade is supplied. The notched specimens are pre-stressed using the bending clamp and inserted into the specimen holder using the transfer tool.

Up to 10 test tubes are placed in a rack, which can be removed from the ESCR test bath for sample preparation and inserted into the bath for testing. The 50 Station unit can hold up to 5 sample racks and can thus be configured as a 10/20/30/40/50 station unit. 300 samples can be viewed through the front window and up to 500 can be tested simultaneously.

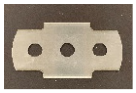
A unique feature of the Coesfeld ESCR tester is the large glass front with integrated LED light to inspect samples while sample remain in the bath. This makes measurement time efficient and clean.

Technical Data

	10-Station-Device	50-Station-Device
Dimensions (WxDxH)	526 x 440 x 476 mm	1331 x 440 x 476 mm
Bath Volume	~24 l	~72 l
Weight	~35 kg (empty)	~75 kg (empty)
Temperature range	RT + 10 °C to 150 °C	
Temperature stability	± 0.1 °C	
Mains / Power	230V, 50Hz / 230V 60Hz / 115V 60Hz 2000 W	

List of items

Item	Description	
40-700-011 40-700-016 40-700-018		10 Station ESCR Tester (up to 100 specimens) 230V 50Hz 230V 60Hz 115V 60Hz
40-700-010 40-700-015 40-700-017		50 Station ESCR Tester (up to 500 specimens) 230V 50Hz 230V 60Hz 115V 60Hz
9-953-033		Lid, covering bath when sample rack is not inserted/ 1 lid per opening required
9-953-010		Test Rack for holding up to 10 test glasses/ min. 1 rack required per unit/ max.5 racks possible for 50 Station tester
40-700-013		Test glass, outer Ø 36 mm, inner Ø 32 mm, length = 225 mm, 1 per sample holder
40-700-002		Test tube tong to hold test glass / 1 per unit
40-700-003		Cork stopper, 1 per test glass
40-700-004		Brass specimen holder for 10 samples / 1 per test glass
9-953-004		Nicking jig (without dial gauge 40-700-006 – to be ordered separately) to cut sample / 1 per unit
40-700-006		Dial gauge to measure notch depth, for nicking jig (9-953-004) / 1 per nicking jig
40-700-005		Notching Blades for nicking jig (5/pack) (1 Blade can be used for notching approx. 100 samples)

40-700-012		Notching Blades for nicking jig (200/pack) (1 Blade can be used for notching approx. 100 samples)
9-953-005		Bending clamp to simultaneously bend 10 sample / 1 per unit
9-953-006		Transfer tool to transfer sample from bending clamp to brass holder / 1 per unit