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Technical Data Sheet

Polyester Curing

Ketone peroxides (Ambient temperature)

CUROX® M-503

Methyl ethyl ketone peroxide
CAS#1338-23-4
Liquid mixture

Description:

Colourless, mobile liquid, consisting of peroxides based on methyl ethyl ketone, essentially desensitised with phtalate plasticiser. This ketone peroxide is used as an initiator (radical source) in the curing of unsaturated polyester resins. Main application: Hand lay-up, spray-up, continuous laminating, centrifugal casting, filament winding and polyester concrete.

Technical Data:

Appearance	colourless liquid
Active oxygen	approx. 9.5% w/w
Free hydrogenperoxide content	approx.3.5% w/w
Water content	approx. 5.0% w/w
De-sensitising agent	dimethylphtalate
Densitiy at 20°C	approx. 1.12 g/cm^3
Viscosity at 20°C	approx. 20 mPa•s
Miscibility	miscible with alcohols, phthalates
Critical temperature (SADT)	above. 60°C
Cold storage stability	below -20°C
Recommended storage temperature	0 to 30°C
Maintenance of activity at 25°	..> 6 months

Application:

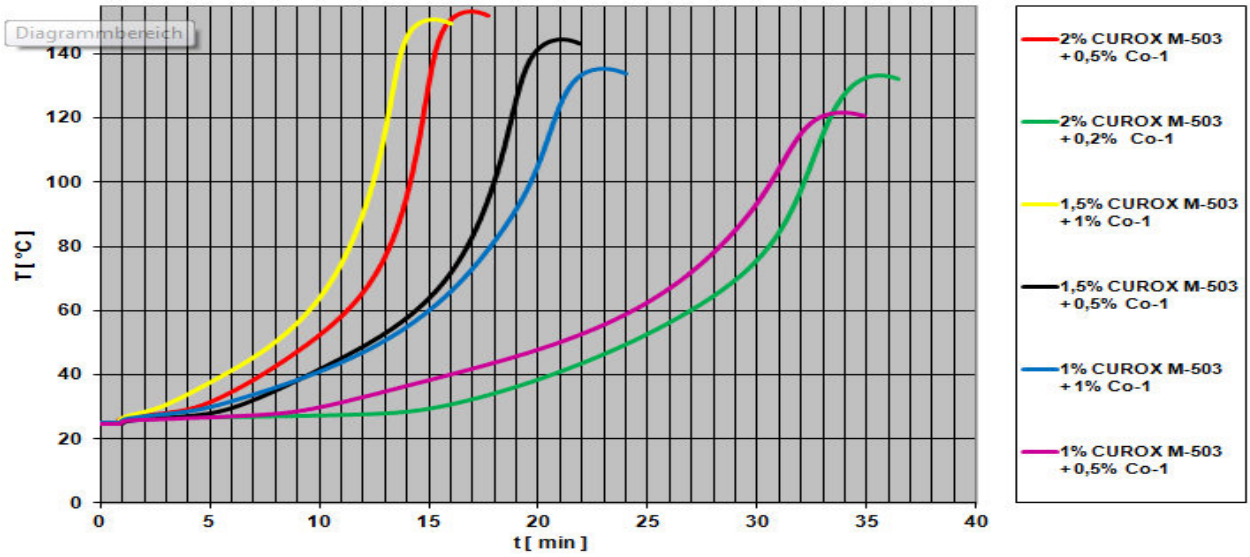
POLYESTER CURING: Curing agent for all UP resin types at ambient temperature in combination with cobalt accelerators. Standard dosage level: 1-3% as supplied, with 0.5-2% of a 1% cobalt solution.
"Pot life" (gel time of resin + peroxide + accelerator) shorter compared to standard MEKP's, but may be prolonged by adding Inhibitor TC-510.

CURING PERFORMANCE: Higher evolution of heat. Relatively short mould release time. Highest reactivity in the MEKP-product range.Temperatures below 20°C prolong curing times considerably, alternatively cobalt / amine accelerators should then be used.

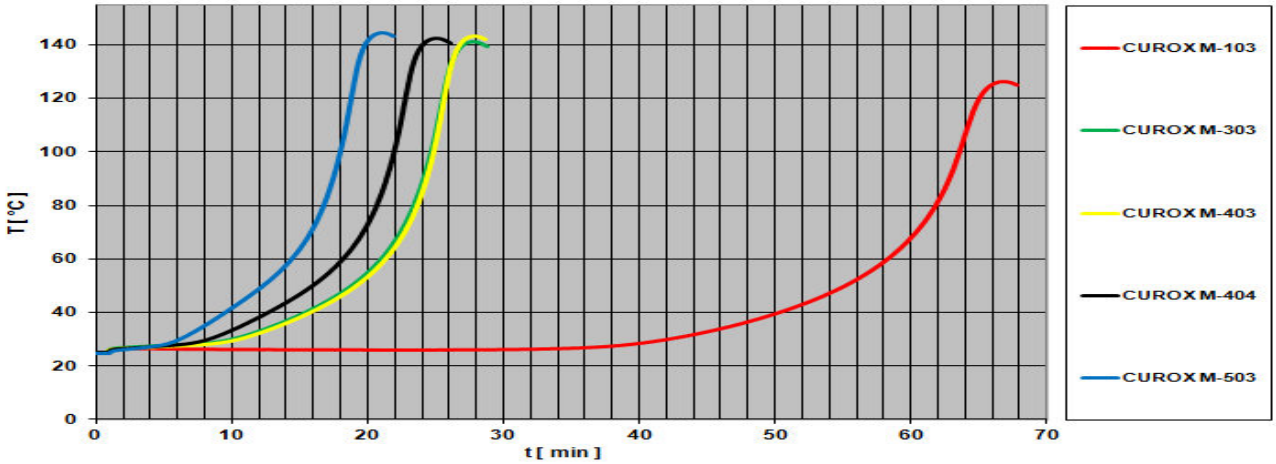
PROCESSING METHODS: Particularly hand lay-up, spray lay-up, centrifugal casting, filament winding, casting of resins, not recommended for gelcoats.

SPRAY EQUIPMENT: Use spray equipment in accordance with manufacturer's instructions. Ensure all safety devices are operational. Do not clear gun by spraying MEKP into the air.

Reactivity:



Measurements in compliance with DIN 16945 at 25°C with OPA resin (20g in a test tube)							
Medium reactive resin type (OPA)		100	100	100	100	100	100
CUROX® M-503	[Vol-%]	2.0	2.0	1.5	1.5	1.0	1.0
BÜFA® Accelerator Co 1	[Vol-%]	0.5	0.2	1.0	0.5	1.0	0.5
Curing data							
Gel time 25 -30°C t_{gel}	[min]	4.5	15.5	2.5	6.0	5.0	10.0
Gel time 25 -35°C t_{gel}	[min]	6.0	18.5	4.5	8.0	7.5	13.0
Curing time t_{max}	[min]	17.0	35.5	15.0	21.0	23.0	34.0
Peaktemperature T_{max}	[°C]	154	133	151	145	135	121



Measurements in compliance with DIN 16945 at 25°C with OPA resin (20g in a test tube)						
Medium reactive resin type (OPA)		100	100	100	100	100
CUROX® M-103	[Vol-%]	1.5				
CUROX® M-303	[Vol-%]		1.5			
CUROX® M-403	[Vol-%]			1.5		
CUROX® M-404	[Vol-%]				1.5	
CUROX® M-503	[Vol-%]					1.5
BÜFA® Accelerator Co 1	[Vol-%]	0.5	0.5	0.5	0.5	0.5
Curing data						
Gel time 25 - 30°C t_{gel}	[min]	42.0	10.0	10.5	8.5	6.0
Gel time 25 - 35°C t_{gel}	[min]	47.0	13.0	13.5	11.0	8.0
Curing time t_{max}	[min]	66.5	28.0	28.0	25.0	21.0
Peaktemperature T_{max}	[°C]	127	141	143	143	145

Further information on suitable curing agents for unsaturated polyester resins is given in our application brochures on this subject.

Contact: **http://www.united-initiators.com**

Disclaimer

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