

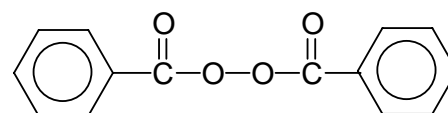
## Technical Data Sheet

## Polyester Curing

Diacyl peroxides (Ambient/Elevated temperature)

### BP-50-FT

Dibenzoyl peroxide  
CAS#94-36-0  
50% Powder with phthalate



### Description:

White, free-flowing powder, consisting of 50% dibenzoyl peroxide, de-sensitised with a phthalic acid ester. This diacyl peroxide is used as an initiator (radical source) in the curing of unsaturated polyester resins. Main application: curing of castings and moulded parts at ambient temperature in combination with amine accelerators.

### Technical Data:

Appearance .....white, free-flowing powder  
Peroxide content..... ca. 50% w/w  
Active oxygen ..... ca. 3.30% w/w  
De-sensitising agent ..... phthalic acid ester  
Bulk density ..... ca. 0.62 kg/l  
Solubility ..... insoluble in water, soluble in phthalates  
Half life time: 10h/1h/1min (0.1 m / benzene)..... 72°C/91°C/130°C  
Critical temperature (SADT) ..... ca. 60°C  
Kick-off temperature ..... ca. 70°C  
Recommended storage temperature..... below 30°C  
Storage stability as from date of delivery..... 6 months

### Application:

**POLYESTER CURING:** Curing agent in powder form for UP resins at ambient temperature in combination with amine accelerators. Usage level: 2-4% as supplied, together with 1-3% Accelerator A-305. Particular advantages: free-flowing powder, easy to handle, easy to dose.

"Shelf life" (gel time of resin + peroxide) usually several weeks, but not without change in activity. "Pot life" (gel time of resin + peroxide + accelerator) very variable.

**CURING CHARACTERISTICS:** Strong evolution of heat, relatively short mould release times, very good mould release factors ( $f_{MR} = t_{MR}/t_{gel}$ ). In thick laminates danger of stress cracking; in thin laminates tacky surface if air allowed to enter. Even at low ambient temperatures, relatively rapid curing. All amine accelerators cause marked yellowish-brown discolouration in finished parts. Above the "kick-off" temperature of 70°C, curing without accelerator is possible. Degree of cure is only moderate, even after post-curing.

**PROCESSING METHODS:** In particular casting of highly-filled material (sealings, UP-concrete, UP foam), wet press moulding with and without accelerator, hand lay-up, injection and vacuum moulding. Thus, the product is very versatile.

**Activity:****Curing at ambient temperature:**

"Amine Curing" of 2 mm thick GRP-laminates at 23°C						
Formulation (parts by weight)						
Highly reactive resin type (OPA)	100	100	100	100	100	100
BP-50-FT	4	4	4	2	2	2
Accelerator A-305	2	1	0.5	2	1	0.5
Curing data						
Gel time ( $t_{gel}$ ) at 23°C [ min]	6	10	30	10	19	44
Mould release time( $t_{MR}$ ) at 23°C [ min]	10	15	50	20	35	90
Mould release factor ( $f_{MR} = t_{MR}/t_{gel}$ )	1.7	1.5	1.6	2.0	1.8	2.0

**Curing at elevated temperatures:**

Influence of Temperature and Accelerator								
Bath Temperature	50°C		65°C		80°C		95°C	
Formulation (parts by weight)								
Highly reactive Resin Type (OPA)	100	100	100	100	100	100	100	100
BP-50-FT	2	2	2	2	2	2	2	2
Accelerator A-305	-	0.5	-	0.5	-	0.5	-	0.5
Curing data								
Gel Time ( $t_{gel}$ ) [ min]	>60	8	30	5	8	4	3	3
Cure Time ( $t_{max}$ ) [ min]	-	10	35	7	10	5	5	4
Cure Factor( $f_H = t_{max}/t_{gel}$ )	-	1.3	1.2	1.4	1.3	1.3	1.7	1.3

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

**Contact:**

<http://www.degussa-initiators.com>