

# nermaids



**DCPD  
HIGH PERFORMANCE  
BUTTERFLY VALVE**



# INTRODUCTION



CHEM-TECH has been designing and building chemical plants systems for near thirty years. Since 1993, CHEM-TECH has introduced the use of Telene® DCPD resins as a substitute of glass reinforced resins and rubber lined metal to manufacture chemical plant equipment, reaching a World leading position in this field.

CHEM-TECH design team, with a deep experience in chemical engineering, specifically dedicated to highly corrosive service conditions, continuously expands the realm of applications for the Telene® polymers. Year after year, the material is used in more severe conditions. The result of this development are new items moulded in Telene® resins which provide money-saving solutions for the chlor-alkali industry, the power plants, the desalination plants, the water treatment and the copper and gold processing industries.



## THE UNIQUE DCPD BUTTERFLY VALVE from DN80 to DN2000

### APPLICATIONS



#### POWER PLANTS

Cooling water  
Chlorination  
Flue gas desulphuration



#### DESALINATION PLANTS



Brine  
Sea water  
Chlorination



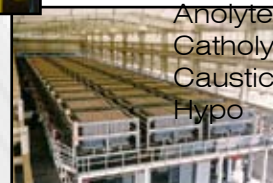
#### COPPER & GOLD MINING



Sulphuric Acid  
Pregnant solution  
Leachate



#### CHLOR ALKALI PLANTS



Pure brine  
Wet chlorine header  
Anolyte  
Catholyte  
Caustic soda  
Hypo



#### OIL RIGS

Cooling water  
Chlorination

## MATERIAL

### DCPD (DICYCLOPENTADIENE)

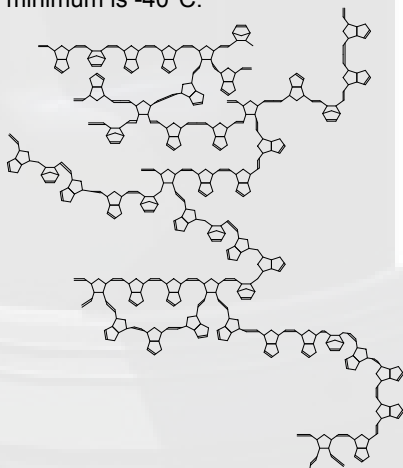
Polymers of Dicyclopentadiene (DCPD), were simultaneously discovered in the early 1980's by the American chemical companies B.F. Goodrich and Hercules. The polymers exhibit an exceptional balance between chemical corrosion resistance and stiffness, impact resistance, even at low temperature, with no addition of fibres.

Marketed in the early nineties under the tradename of Telene®, poly-Dicyclopentadiene is used to make the body panels of heavy industrial vehicles, snowmobiles, because of its exceptional impact resistance, with no loss of resilience at low temperature, and its dimensional stability.

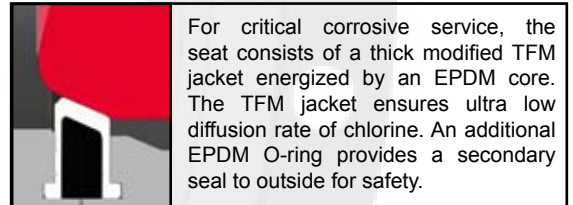
From 1993 the chemical engineering company CHEM-TECH makes use of the chemical resistance of Telene polymer to make chemical plant equipment, substituting for glass reinforced resins and rubber lined metal.

Telene® resin is cast at low pressure, making way for moulding of parts of unlimited size and thickness.

The resulting equipment is lightweight, free from corrosion both internally and externally, and extremely durable. The maximum temperature of practical use is 100°C, and the minimum is -40°C.



The actuator mounting flange comply with ISO5211.



For critical corrosive service, the seat consists of a thick modified TFM jacket energized by an EPDM core. The TFM jacket ensures ultra low diffusion rate of chlorine. An additional EPDM O-ring provides a secondary seal to outside for safety.



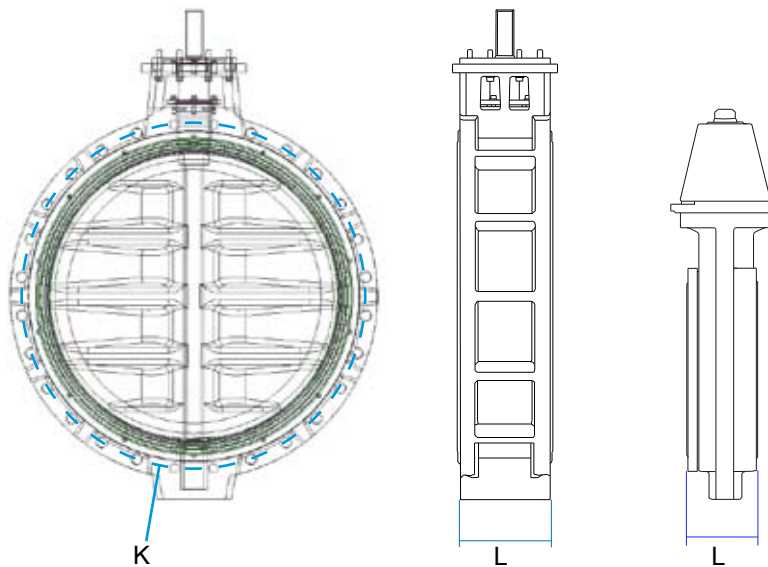
The shaft is encapsulated with DCPD. Its stainless steel core is never in contact with the fluid. From DN200 upwards, the shaft is sealed with an adjustable PTFE gland with chevron packing, energized by an EPDM cushion.



The eccentric valve design eliminates the need for an elastomer sleeve. The 360° integral seat has no intersection with the shaft seal.

- **Economic, solid corrosion-free materials**
- **Lightweight**
- **No external corrosion**
- **Durability**
- **Robust**
- **Low actuator torque needed**

# TECHNICAL DATA



**DN80 to DN600  
Wafer Type**

Valve Size		L		K			Weight
DN	Inch	ANSI150	PN10	ANSI150	JIS 10K		(kg)
80	3	48	160	152	150		1.5
100	4	54	180	190	175		2.5
125	5	56		215	210		3.2
150	6	57	240	241	240		3.8
200	8	64	295	299	290		6
250	10	71	350	362	355		9.6
300	12	81	400	432	400		15
350	14	92			445		18.3
400	16	102	515	540	510		24.6
500	20	127	620	635	620		43.5
600	24	154	725	750	730		85
700	28	292	840	864	840		219
750	30	318		914			255
800	32	318	950	978	950		316
900	36	330	1050	1086	1050		403
1000	40	410	1160	1200	1160		499
1100	42	410		1257			579
1200	48	470	1380	1422	1380		774
1500	60	530	1700	1759	1700		1213

## Specifications for sea water and brine service

Eccentric butterfly valve

- **DN80-DN600**, wafer type, face to face as per API 609 table 1

- **DN700 to DN2000**, Double Flanged type, face to face as per EN558 table 13

**Body Material** : Telene® DCPD (Dicyclopentadiene)

**Disc Material** : Telene® DCPD

**Seat** : EPDM

**Shaft type** : One piece, straight through shaft. Square section inside the disc.

**Shaft material** : Non wetted stainless steel encapsulated in DCPD.

**Shaft Seal** : Live loaded chevron PTFE gland packing.

## Specifications for critical corrosive service

Eccentric butterfly valve (API 609 categorie B)

- **DN80-DN600**, wafer type, face to face as per API 609 table 1

**Body material** : Telene® DCPD (Dicyclopentadiene)

**Disc material** : PVDF or Telene® DCPD

**Seat** : TFM with EPDM core

**Shaft type** : One piece, straight through shaft. Square section inside the disc.

**Shaft material** : Non wetted stainless steel encapsulated in DCPD.

**Shaft Seal** : Gland packing with PTFE chevron packing and EPDM loading ring.



**DN700 to DN2000  
Flanged Type**

Design Pressure @ 25°C : 10 bar.

Leakage rate : Class VI

Maximum service temperature : 100 °C

Actuator mounting pad : ISO 5211

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