

Your Sealing Partner...

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CSB® Slide Bearing Specialist

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Kunststoffe



ROD SEALS

	605 Metric & Inch Material PU Speed 1 m/s Pressure 40Mpa Temperature -45°C / +110°C
	621 Metric & Inch Material PU+NBR+POM Speed 1 m/s Pressure 70Mpa Temperature -45°C / +110°C
	610 Material PU Speed 1 m/s Pressure 40Mpa Temperature -45°C / +110°C
	652 Material PU+NBR+POM Speed 1 m/s Pressure 70Mpa Temperature -45°C / +110°C
	16 / RB 24M Material PTFE+NBR/FKM Speed 4 m/s Pressure 40Mpa Temperature -30°C / +180°C
	620 Inch Material PU+NBR Speed 1 m/s Pressure 40Mpa Temperature -45°C / +110°C
	616 Material PU Speed 1 m/s Pressure 25Mpa Temperature -45°C / +110°C
	663 Material PU Speed 1 m/s Pressure 40Mpa Temperature -45°C / +110°C
	653 Metric & Inch Material PU+POM Speed 1 m/s Pressure 70Mpa Temperature -45°C / +110°C



















WIPERS





	33 Metric & Inch Material NBR Speed 4 m/s Temperature -30°C / +100°C
	38 Material TPE Speed 4 m/s Temperature -40°C / +120°C
	335 Material PTFE+NBR/FKM Speed 5 m/s Temperature -30°C / +180°C
	520 Inch Material PU Speed 4 m/s Temperature -45°C / +110°C
	831 Metric Material PU Speed 4 m/s Temperature -45°C / +110°C
	862 Material PU+Metal Speed 1 m/s Temperature -40°C / +100°C
	834 Material PU Speed 4 m/s Temperature -45°C / +110°C
	839 Material NBR Speed 4 m/s Temperature -45°C / +110°C
	842 Metric & Inch Material PU Speed 4 m/s Temperature -45°C / +110°C
	844 Material PU Speed 4 m/s Temperature -45°C / +110°C
	846 Material PU Speed 4 m/s Temperature -45°C / +110°C
	860 Material PU+Metal Speed 1 m/s Temperature -40°C / +100°C

SYMMETRIC SEALS


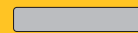
	18 Metric & Inch Material NBR-FABRIC Speed 0,5 m/s Pressure 50Mpa Temperature -30°C / +100°C
	15 Material NBR-FABRIC Speed 0,5 m/s Pressure 30Mpa Temperature -30°C / +100°C
	511 Inch Material TPE+NBR Speed 0,5 m/s Pressure 35Mpa Temperature -40°C / +110°C
	512 Inch Material TPE+NBR Speed 0,5 m/s Pressure 35Mpa Temperature -40°C / +110°C
	513 Inch Material TPE+NBR Speed 0,5 m/s Pressure 35Mpa Temperature -40°C / +110°C
	601 Metric & Inch Material PU Speed 1 m/s Pressure 40Mpa Temperature -45°C / +110°C
	Vee Pack Metric & Inch Material NBR/FKM Speed 0,5 m/s Pressure 70Mpa Temperature -25°C / +150°C

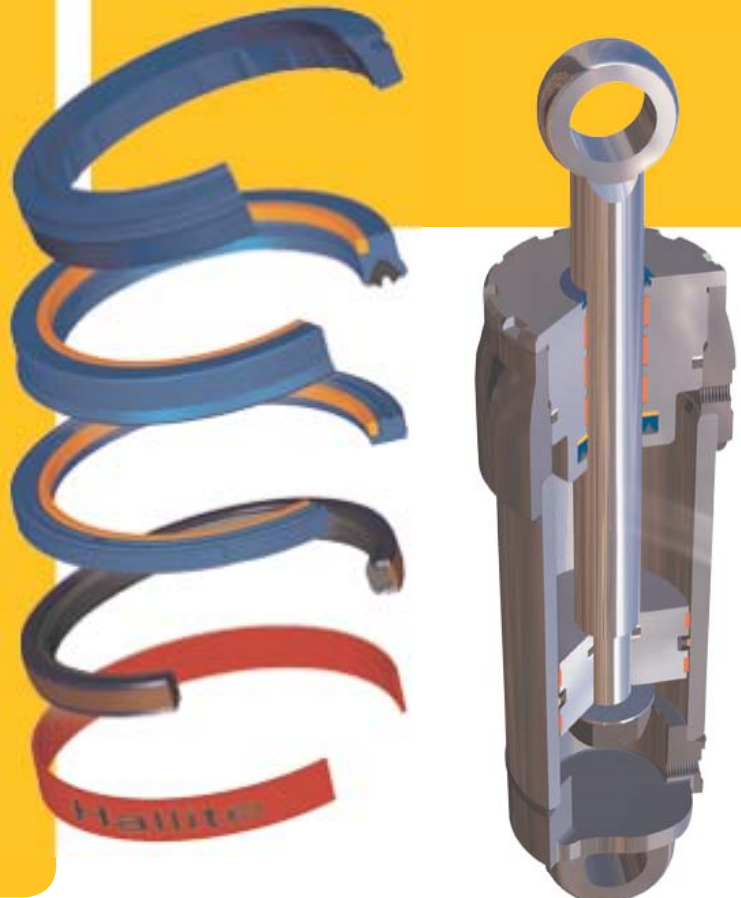
Piston Seals

	50 Metric Material NBR+PA+POM Pressure 35Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	51 Metric Material NBR-FABRIC+POM Pressure 70Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	52 Material NBR-FABRIC Pressure 60Mpa Speed 0,8 m/s Temperature -30°C/+110°C
	53 Metric & Inch Material NBR+PA+POM Pressure 50Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	54 Metric & Inch Material PTFE+NBR/FKM Pressure 35Mpa Speed 4 m/s Temperature -30°C/+200°C
	56 Metric & Inch Material NBR-FABRIC Pressure 50Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	58 Metric & Inch Material NBR-FABRIC+POM Pressure 70Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	64 Material NBR+PA+POM Pressure 40Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	65 Metric & Inch Material NBR+POM Pressure 16Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	68 Inch Material NBR+PA+POM Pressure 50Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	77 Metric & Inch Material NBR+POM Pressure 35Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	714 Metric & Inch Material NBR+Nylon Pressure 50Mpa Speed 2 m/s Temperature -40°C/+110°C
	730 Material TPE+NBR+POM Pressure 70Mpa Speed 0,3 m/s Temperature -40°C/+110°C
	735 Metric & Inch Material PTFE+NBR/FKM Pressure 50Mpa Speed 1,5 m/s Temperature -40°C/+120°C
	753 Material PU+NBR+POM Pressure 40Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	780 Material TPE+NBR+POM Pressure 40Mpa Speed 0,5 m/s Temperature -30°C/+100°C
	754 Metric & Inch Material TPE+NBR Pressure 35Mpa Speed 1 m/s Temperature -40°C/+110°C
	755 Inch Material TPE+NBR Pressure 35Mpa Speed 1 m/s Temperature -40°C/+110°C
	764 Metric & Inch Material TPE+NBR Pressure 25Mpa Speed 1 m/s Temperature -30°C/+110°C

	770 Inch Material TPE+NBR Pressure 35Mpa Speed 1 m/s Temperature -40°C/+110°C
	775 Inch Material TPE+NBR Pressure 35Mpa Speed 1 m/s Temperature -30°C/+110°C
	606 Metric & Inch Material PU Pressure 40Mpa Speed 1 m/s Temperature -45°C/+110°C
	659 Metric & Inch Material PU Pressure 40Mpa Speed 1 m/s Temperature -45°C/+110°C

GUIDE RINGS

	506 Metric & Inch Material HARD FABRIC Loading $\leq 80N/mm^2$ at 60°C Speed 5 m/s Temperature -40°C/+120°C
	533 Inch Material PA+Glass Loading $\leq 40N/mm^2$ at 60°C Speed 5 m/s Temperature -40°C/+120°C
	87 Material PTFE Bronze Loading $\leq 20N/mm^2$ at 20°C Speed 5 m/s Temperature -50°C/+200°C





ROD SEALS



T20
Material **PU** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



T22
Material **PU** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



T23
Material **PU+POM** Pressure **50Mpa**
Speed **0,1 m/s** Temperature **-30°C/+110°C**



T24
Material **PU** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



NI150
Material **NBR** Pressure **10Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



NI250
Material **NBR+POM** Pressure **25Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



NI300
Material **PU** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



NI400
Material **NBR-FABRIC+POM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



OMS-S
Material **PTFE+NBR** Pressure **40Mpa**
Speed **5 m/s** Temperature **-30°C/+100°C**



OMS-MR
Material **PTFE+NBR/FKM** Pressure **40Mpa**
Speed **5 m/s** Temperature **-30°C/+200°C**



FOI
Material **PTFE+Steel** Pressure **30Mpa**
Speed **15 m/s** Temperature **-200°C/+260°C**



TM20 Large Size
Material **PU** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



KI310
Material **PU** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



KI320
Material **PU+POM** Pressure **50Mpa**
Speed **0,1 m/s** Temperature **-30°C/+110°C**



KI520
Material **NBR-FABRIC+POM** Pressure **50Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



LF300
Material **PU** Pressure **32Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



SYPRIM SM
Material **PU+POM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



S8
Material **NBR-FABRIC** Pressure **25Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



S25
Material **NBR-FABRIC+POM** Pressure **50Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



ES/ESV
Material **NBR/FKM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+140°C**



TFMI
Material **PTFE+NBR** Pressure **16Mpa**
Speed **2 m/s** Temperature **-30°C/+100°C**



0214/0216
Material **NBR-FABRIC+POM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**

PISTON SEALS



SIMKO300
Material **PU+NBR** Pressure **40Mpa**
Speed **5 m/s** Temperature **-30°C/+110°C**



SIMKO320
Material **NBR-FABRIC+PA** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



SIMKO520
Material **NBR-FABRIC+PA** Pressure **50Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



NA150
Material **NBR** Pressure **10Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



NA250
Material **NBR+POM** Pressure **25Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



NA300
Material **PU** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



NA400
Material **NBR-FABRIC+POM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



T18
Material **PU+POM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



T19
Material **PU+POM** Pressure **21Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



OMK-E
Material **PTFE+NBR/FKM** Pressure **40Mpa**
Speed **5 m/s** Temperature **-30°C/+200°C**



OMK-MR
Material **PTFE+NBR/FKM** Pressure **40Mpa**
Speed **5 m/s** Temperature **-30°C/+200°C**



OMK-S
Material **PTFE+NBR** Pressure **40Mpa**
Speed **5 m/s** Temperature **-30°C/+100°C**



OMK-ES
Material **PTFE+NBR** Pressure **30Mpa**
Speed **5 m/s** Temperature **-40°C/+100°C**



L27
Material **PTFE+NBR+POM** Pressure **50Mpa**
Speed **1.5 m/s** Temperature **-30°C/+100°C**



L43
Material **NBR+TPE+PA** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+100°C**



TDUOH
Material **NBR+Metal** Pressure **7Mpa**
Speed **0,5 m/s** Temperature **-30°C/+110°C**



TFMA
Material **PTFE+NBR** Pressure **16Mpa**
Speed **2 m/s** Temperature **-30°C/+100°C**



EK/EKV
Material **NBR/FKM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+140°C**



FOA
Material **PTFE+Steel** Pressure **30Mpa**
Speed **15 m/s** Temperature **-200°C/+260°C**

WIPERS



AS
Material **NBR+Metal**
Speed **2 m/s** Temperature **-30°C/+100°C**



ASOB
Material **NBR**
Speed **2 m/s** Temperature **-30°C/+100°C**



AUAS
Material **PU+Metal**
Speed **2 m/s** Temperature **-30°C/+110°C**



AUAS R
Material **PU+Metal**
Speed **2 m/s** Temperature **-30°C/+110°C**



AUASOB
Material **PU**
Speed **2 m/s** Temperature **-30°C/+110°C**



AUPS
Material **PU+Metal**
Speed **2 m/s** Temperature **-30°C/+110°C**



PT1
Material **PTFE+NBR/FKM**
Speed **5 m/s** Temperature **-30°C/+200°C**



PT2
Material **PTFE+NBR/FKM**
Speed **5 m/s** Temperature **-30°C/+200°C**



PU5
Material **PU**
Speed **2 m/s** Temperature **-30°C/+110°C**



PU6
Material **PU**
Speed **2 m/s** Temperature **-30°C/+110°C**



PU7
Material **PU**
Speed **2 m/s** Temperature **-30°C/+110°C**



PU11
Material **PU+Metal**
Speed **2 m/s** Temperature **-30°C/+110°C**



PU11
Material **PU**
Speed **2 m/s** Temperature **-30°C/+110°C**



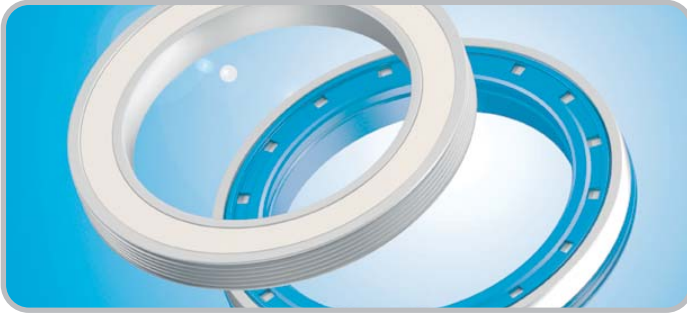
P6
Material **NBR/FKM**
Speed **2 m/s** Temperature **-30°C/+200°C**



P8
Material **NBR**
Speed **2 m/s** Temperature **-30°C/+100°C**



P9
Material **NBR**
Speed **2 m/s** Temperature **-30°C/+100°C**



GUIDE RINGS

	SBK Material HARD FABRIC Speed 1 m/s	Pressure $\leq 80\text{N/mm}^2$ at 60°C Temperature -40°C/+120°C
	KBK Material HARD FABRIC Speed 1 m/s	Pressure $\leq 80\text{N/mm}^2$ at 60°C Temperature -40°C/+120°C
	SB Material HARD FABRIC Speed 1 m/s	Pressure $\leq 50\text{N/mm}^2$ at 120°C Temperature -40°C/+120°C
	KB Material HARD FABRIC Speed 1 m/s	Pressure $\leq 50\text{N/mm}^2$ at 120°C Temperature -40°C/+120°C
	KF/SF Material PTFE Bronze Speed 5 m/s	Pressure $\leq 15\text{N/mm}^2$ at 20°C Temperature -40°C/+200°C
	EKF Material Polyamide Speed 1 m/s	Pressure $\leq 25\text{N/mm}^2$ at 20°C Temperature -30°C/+100°C
	FRI Material Filled Polyamide Speed 1 m/s	Pressure $\leq 40\text{N/mm}^2$ at 20°C Temperature -30°C/+100°C
	FRA Material Filled Polyamide Speed 1 m/s	Pressure $\leq 40\text{N/mm}^2$ at 20°C Temperature -30°C/+100°C

Rotary Shaft Seals

	BA/ BAU/ BAUX2 Material NBR Speed 10 m/s	Pressure 0,05Mpa Temperature -40°C/+110°C
	BAUSL/ BAUSLX2/ BASL Material NBR Speed 10 m/s	Pressure 0,05Mpa Temperature -40°C/+110°C

	BAUMX7 Material FKM Speed 10 m/s	Pressure 0,05Mpa Temperature -25°C/+160°C
	BAUMSLX7 Material FKM Speed 10 m/s	Pressure 0,05Mpa Temperature -25°C/+160°C
	BAFUDX7 Material NBR Speed 10 m/s	Pressure 0,02Mpa Temperature -40°C/+110°C
	BAFUDSLX7 Material NBR Speed 10 m/s	Pressure 0,02Mpa Temperature -40°C/+110°C
	B1/ B1U/ B1FUD Material NBR/FKM Speed 10 m/s	Pressure 0,05Mpa Temperature -40°C/+110°C
	B1USL/ B1SL/ B1FUDSL Material NBR/FKM Speed 10 m/s	Pressure 0,02Mpa Temperature -40°C/+110°C
	B2/ B2U/ B2FUD Material NBR/FKM Speed 10 m/s	Pressure 0,05Mpa Temperature -40°C/+110°C
	B2USL/ B2SL/ B2FUDSL Material NBR/FKM Speed 10 m/s	Pressure 0,02Mpa Temperature -40°C/+110°C
	B2PT Material PTFE Speed 30 m/s	Pressure 0,1Mpa Temperature -80°C/+200°C
	BABS Material NBR/FKM Speed 0,1 m/s	Pressure 10Mpa Temperature -40°C/+110°C
	BAOF Material NBR Speed 6 m/s	Temperature -40°C/+100°C
	B1OF Material NBR Speed 6 m/s	Temperature -40°C/+100°C
	R35 Material NBR/FKM/HNBR Speed 25 m/s	Pressure 0,05Mpa Temperature -30°C/+180°C
	R36 Material NBR/FKM/HNBR Speed 25 m/s	Pressure 0,05Mpa Temperature -30°C/+180°C
	R37 Material NBR/FKM/HNBR Speed 25 m/s	Pressure 0,05Mpa Temperature -30°C/+180°C
	R58 Material NBR/FKM Speed 25 m/s	Pressure 0,05Mpa Temperature -30°C/+180°C



RS 85
Material **NBR/FKM/HNBR+Metal** Pressure **0,05Mpa**
Speed **25 m/s** Temperature **-30°C/+180°C**



RHS 51
Material **NBR/FKM/HNBR+Metal** Pressure **0,05Mpa**
Speed **35 m/s** Temperature **-30°C/+180°C**



M15
Material **PTFE+NBR/FKM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+150°C**



M16
Material **PTFE+NBR/FKM** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+150°C**



M17
Material **NBR/FKM** Pressure **10Mpa**
Speed **1 m/s** Temperature **-15°C/+150°C**



M19
Material **NBR/FKM** Pressure **40Mpa**
Speed **0,2 m/s** Temperature **-15°C/+150°C**

SPECIAL RADIAL SHAFT SEALS



CASSETTE SEAL TYP 1
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **9 m/s** Temperature **-25°C/+100°C**



CASSETTE SEAL TYP 2
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **7 m/s** Temperature **-25°C/+100°C**



CASSETTE SEAL TYP 3
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **6 m/s** Temperature **-25°C/+100°C**



COMBI SEAL
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **5 m/s** Temperature **-25°C/+80°C**



COMBI SEAL SF5
Material **NBR/FKM** Pressure **0,05Mpa**
Speed **10 m/s** Temperature **-25°C/+100°C**



COMBI SEAL SF6
Material **NBR/FKM** Pressure **0,02Mpa**
Speed **10 m/s** Temperature **-40°C/+110°C**

Freudenberg Group

Preferred Distributor

2011

O-PAK

is given the award for first-class customer orientation:
Outstanding performance in consulting, sales and service

January 2011



José Caro
Vice President Sales
Distribution & New Regions

Your Technology Specialist

simrit®



Piston Seals

	ODI Material PU Speed 0,5 m/s	Pressure 30-70Mpa Temperature -35°C/+100°C
	OSI Material PU Speed 0,5 m/s	Pressure 30-40Mpa Temperature -35°C/+100°C
	OUI Material PU Speed 1 m/s	Pressure 30-40Mpa Temperature -10°C/+110°C
	OUHR Material NBR Speed 1 m/s	Pressure 21Mpa Temperature -55°C/+80°C
	SPG Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -40°C/+160°C
	SPGW Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 50Mpa Temperature -40°C/+160°C
	SPGC Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 2Mpa Temperature -30°C/+160°C
	SPGO Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -30°C/+160°C
	SPGI Material PU+NBR Speed 1 m/s	Pressure 21Mpa Temperature -40°C/+80°C
	CPI Material PU Speed 0,3 m/s	Pressure 7Mpa Temperature -35°C/+100°C
	CPH Material NBR Speed 0,3 m/s	Pressure 3,5Mpa Temperature -25°C/+100°C

Rod Seals

	IDI Material PU Speed 1 m/s	Pressure 30-70Mpa Temperature -35°C/+100°C
	ISI Material PU Speed 1 m/s	Pressure 30-40Mpa Temperature -30°C/+110°C
	IUH Material NBR Speed 1 m/s	Pressure 21Mpa Temperature -25°C/+125°C
	UNI Material PU+MVQ Speed 1 m/s	Pressure 42Mpa Temperature -45°C/+100°C
	SPNO Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -30°C/+160°C
	SPN Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -40°C/+160°C
	SPNC Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 2Mpa Temperature -30°C/+160°C
	HBY Material PU+POM Speed 1 m/s	Pressure 50Mpa Temperature -55°C/+100°C
	HBTS Material PTFE+NBR/FKM Speed 1,5 m/s	Pressure 35Mpa Temperature -55°C/+160°C

Symmetric Seals

	UPI Material PU Speed 1 m/s	Pressure 35Mpa Temperature -35°C/+100°C
	USI Material PU Speed 1 m/s	Pressure 25Mpa Temperature -35°C/+100°C
	UPH Material NBR/FKM Speed 1 m/s	Pressure 32Mpa Temperature -25°C/+150°C
	USH Material NBR/FKM Speed 1 m/s	Pressure 25Mpa Temperature -55°C/+150°C
	V99F Material Fabric+NBR/FKM Speed 1 m/s	Pressure 30Mpa Temperature -25°C/+180°C
	V96H Material NBR/FKM Speed 0,5 m/s	Pressure 30Mpa Temperature -25°C/+150°C

RADIAL SHAFT SEALS



SC
Material **NBR+ACM+MWQ+FKM** Pressure **10Mpa**
Speed **0,03 m/s** Temperature **-30°C/+100°C**



SB
Material **NBR+ACM+MWQ+FKM** Pressure **10Mpa**
Speed **0,03 m/s** Temperature **-30°C/+100°C**



VC
Material **NBR**
Speed **6 m/s** Temperature **-30°C/+100°C**



VB
Material **NBR**
Speed **6 m/s** Temperature **-30°C/+100°C**



SA1J
Material **PTFE** Pressure **0,3Mpa**
Speed **15 m/s** Temperature **-50°C/+200°C**



VAJ
Material **PTFE** Pressure **0,1Mpa**
Speed **30 m/s** Temperature **-50°C/+200°C**



TCV
Material **NBR/FKM** Pressure **0,3Mpa**
Speed **10 m/s** Temperature **-15°C/+150°C**



TCN
Material **NBR/FKM** Pressure **1Mpa**
Speed **10 m/s** Temperature **-15°C/+150°C**



TC4
Material **NBR** Pressure **0,5Mpa**
Speed **1,5 m/s** Temperature **-10°C/+80°C**



TB4
Material **NBR** Pressure **0,5Mpa**
Speed **1,5 m/s** Temperature **-10°C/+80°C**



SBB
Material **NBR** Pressure **0,03Mpa**
Speed **25 m/s** Temperature **-20°C/+80°C**



SB
Material **NBR** Pressure **0,03Mpa**
Speed **15 m/s** Temperature **-20°C/+80°C**



TB
Material **NBR** Pressure **0,03Mpa**
Speed **15 m/s** Temperature **-20°C/+80°C**



TC
Material **NBR+ACM+MVQ+FKM** Pressure **0,03Mpa**
Speed **10 m/s** Temperature **-30°C/+100°C**



TB
Material **NBR+ACM+MVQ+FKM** Pressure **0,03Mpa**
Speed **10 m/s** Temperature **-30°C/+100°C**



KC
Material **NBR**
Speed **6 m/s** Temperature **-30°C/+100°C**



KB
Material **NBR**
Speed **6 m/s** Temperature **-30°C/+100°C**



TCJ
Material **ACM/NBR+PTFE** Pressure **0,1Mpa**
Speed **20 m/s** Temperature **-25°C/+130°C**



DC
Material **ACM/NBR** Pressure **0,03Mpa**
Speed **10 m/s** Temperature **-30°C/+100°C**



DB
Material **ACM/NBR** Pressure **0,03Mpa**
Speed **10 m/s** Temperature **-30°C/+100°C**



QLFY
Material **PU+Metal** Pressure **0,03Mpa**
Speed **2 m/s** Temperature **-30°C/+100°C**



VR
Material **NBR/FKM**
Speed **10 m/s** Temperature **-20°C/+150°C**



ZF
Material **NBR**
Speed **3 m/s** Temperature **-20°C/+80°C**



ZT
Material **NBR**
Speed **3 m/s** Temperature **-20°C/+80°C**



MG
Material **NBR**
Speed **5 m/s** Temperature **-20°C/+80°C**

WIPERS



DKB
Material **NBR/FKM+Metal**
Speed **2 m/s** Temperature **-55°C/+150°C**



DKBI
Material **PU+Metal**
Speed **2 m/s** Temperature **-55°C/+100°C**



DKH
Material **NBR/FKM+Metal**
Speed **2 m/s** Temperature **-55°C/+150°C**



DKI
Material **PU+Metal**
Speed **2 m/s** Temperature **-55°C/+100°C**



DWI
Material **PU+Metal**
Speed **2 m/s** Temperature **-55°C/+100°C**



DWIR
Material **PU+Metal**
Speed **2 m/s** Temperature **-55°C/+100°C**



LBH
Material **NBR/FKM**
Speed **2 m/s** Temperature **-55°C/+150°C**



LBI
Material **PU**
Speed **2 m/s** Temperature **-35°C/+100°C**



DSI
Material **PU**
Speed **2 m/s** Temperature **-35°C/+100°C**



DLI
Material **PU+Metal**
Speed **2 m/s** Temperature **-35°C/+100°C**



DLI2
Material **PU+Metal**
Speed **2 m/s** Temperature **-35°C/+100°C**



VAY
Material **PU**
Speed **2 m/s** Temperature **-55°C/+110°C**

GUIDE RINGS














WR
Material **HARD FABRIC** Pressure $\leq 50N/mm^2$ at 60°C
Speed **1,5 m/s** Temperature **-40°C/+120°C**













RYT
Material **PTFE Bronze** Pressure $\leq 15N/mm^2$ at 20°C
Speed **1,5 m/s** Temperature **-55°C/+200°C**








ROD SEALS

- 
TDI
 Material **PU+PTFE** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
EVD
 Material **PU+PTFE** Pressure **36Mpa**
 Speed **1 m/s** Temperature **0°C/+80°C**
- 
TDT
 Material **PU** Pressure **30Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
NDT
 Material **PU** Pressure **25Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
TDMI
 Material **PU+PTFE** Pressure **25Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
GGDI
 Material **NBR+POM+PTFE** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
GGDI-SP
 Material **NBR+POM+PTFE** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
ZSDI
 Material **NBR+POM+Bronze** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
GODI
 Material **PTFE+NBR/FKM** Pressure **36Mpa**
 Speed **1 m/s** Temperature **-35°C/+200°C**
- 
GDSI
 Material **PTFE+NBR/FKM** Pressure **36Mpa**
 Speed **1 m/s** Temperature **-35°C/+200°C**
- 
GODI-SP
 Material **PTFE+NBR/FKM** Pressure **36Mpa**
 Speed **1 m/s** Temperature **-35°C/+200°C**

PISTON SEALS

- 
GD1000K
 Material **NBR+PTFE+Hytrel** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-45°C/+120°C**
- 
GKD
 Material **NBR+PTFE+Hytrel** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
GD2000P
 Material **NBR+POM+PTFE** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-30°C/+80°C**
- 
TDA
 Material **PU+PTFE** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-35 °C/+100°C**
- 
TDMA
 Material **PU+PTFE** Pressure **25Mpa**
 Speed **1 m/s** Temperature **-35 °C/+100°C**
- 
GGDA
 Material **NBR+POM+PTFE** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
ZSDA
 Material **NBR+PTFE+Bronze** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
GODA
 Material **PTFE+NBR/FKM** Pressure **36Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
GDSA
 Material **PTFE+NBR/FKM** Pressure **36Mpa**
 Speed **1 m/s** Temperature **-35°C/+100°C**
- 
GODA-SP
 Material **PTFE+NBR/FKM** Pressure **45Mpa**
 Speed **1 m/s** Temperature **-36°C/+100°C**

WIPERS

- 
AI
 Material **Hytrel/FKM** Temperature **-45°C/+200°C**
 Speed **1 m/s**
- 
AID
 Material **Hytrel** Temperature **-45°C/+110°C**
 Speed **1 m/s**
- 
AIST
 Material **NBR** Temperature **-35°C/+100°C**
 Speed **1 m/s**
- 
A-EIS
 Material **Brass+NBR+Steel** Temperature **-35 °C/+100°C**
 Speed **1 m/s**
- 
A-EIS-S
 Material **Bronze+PU+POM** Temperature **-35 °C/+100°C**
 Speed **1 m/s**

OTHER SEALS



OBVD-ax
Material **NBR+PU** Pressure **50Mpa**
Speed **1 m/s** Temperature **-30°C/+100°C**



OBVD-2ax
Material **NBR+PU** Pressure **50Mpa**
Speed **1 m/s** Temperature **-30°C/+100°C**



KKP
Material **Complete Piston Hydraulic** Pressure **45Mpa**
Speed **1 m/s** Temperature **-35°C/+100°C**



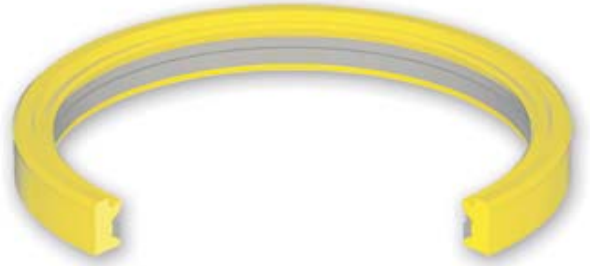
KKH
Material **Complete Piston Hydraulic** Pressure **45Mpa**
Speed **1 m/s** Temperature **-45°C/+120°C**



DMD Tandem 2000
Material **PU+PTFE+NBR** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+120°C**



DMD
Material **NBR/POM/PTFE** Pressure **40Mpa**
Speed **0,5 m/s** Temperature **-30°C/+120°C**



GUIDE RINGS



FI
Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at 60°C
Speed **3 m/s** Temperature **-55°C/+120°C**



FAI
Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at 60°C
Speed **3 m/s** Temperature **-55°C/+120°C**



FA
Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at 60°C
Speed **3 m/s** Temperature **-55°C/+120°C**



RFI
Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at 60°C
Speed **3 m/s** Temperature **-55°C/+120°C**



RFA
Material **POM+PTFE+Bronze** Pressure $\leq 78\text{N/mm}^2$ at 60°C
Speed **3 m/s** Temperature **-55°C/+120°C**



PFB
Material **PTFE Bronze** Pressure $\leq 20\text{N/mm}^2$ at 20°C
Speed **3 m/s** Temperature **-200°C/+200°C**

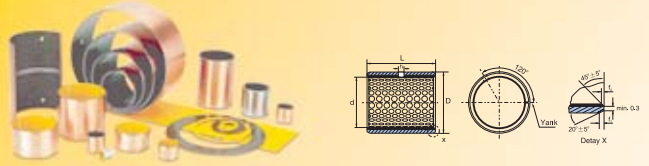
SLIDE BEARING & BUSHING

Slide Bearing & Bushing



CSB-20

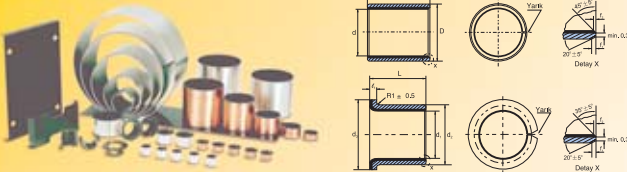
POM Yataklı yüzeyli, Sinter Bronz katmanlı, Çelik gövdeli Burç



Teknik Veriler						
Maksimum Yük	Statik	250 N/mm ²	Sıcaklık Sınırı	-40°C~+110°C		
	Düşük Hız	140 N/mm ²		Maksimum Hız	On Yağlamalı	2 m/sn
	Dönüş - Salınım	70 N/mm ²		Sürekli Gres Yağlamalı	> 2 m/sn	
Maksimum PV	3 N/mm ² *m/sn		Isıl Geçirgenlik	4 W(m ² *K) ⁻¹		
Isıl Genleşme Katsayısı	11*10 ⁻⁶ *K ⁻¹		Sürtünme Katsayısı	0.05-0.20		
Montajda ön yağlama gereklidir...						

CSB-10

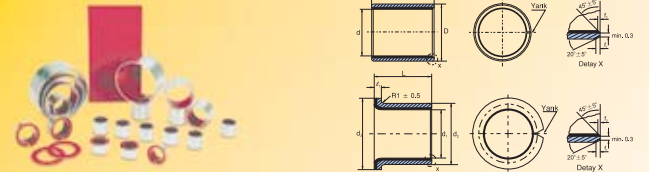
PTFE/Pb Yataklı yüzeyli, Sinter Bronz katmanlı, Çelik gövdeli Burç



Teknik Veriler						
Maksimum Yük	Statik	250 N/mm ²	Sürtünme Katsayısı	0.03-0.20		
	Düşük Hız	140 N/mm ²		Maksimum Hız	Kuru Çalışma	2 m/sn
	Dönüş - Salınım	60 N/mm ²		Hidrodinamik Çalışma Ortamı	> 2 m/sn	
Maksimum PV Kuru Çalışma	Kısa Süreli Uygulama	3.6 N/mm ² *m/sn	Isıl Geçirgenlik	42 W(m ² *K) ⁻¹		
	Sürekli Uygulama	1.8 N/mm ² *m/sn	Isıl Genleşme Katsayısı	11*10 ⁻⁶ *K ⁻¹		
Sıcaklık Sınırı	-195°C~+280°C					

CSB-40

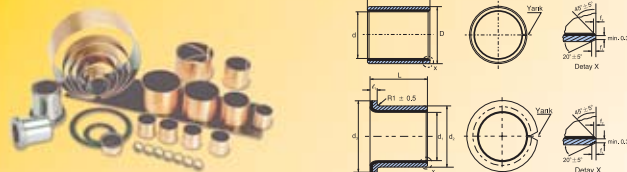
PTFE/Elyaf Yataklı yüzeyli, Sinter Bronz katmanlı, Bronz gövdeli Burç



Teknik Veriler						
Maksimum Yük	Statik	250 N/mm ²	Sürtünme Katsayısı	0.05-0.20		
	Düşük Hız	140 N/mm ²		Maksimum Hız	Kuru Çalışma	2 m/sn
	Dönüş - Salınım	60 N/mm ²		Hidrodinamik Çalışma Ortamı	> 2 m/sn	
Maksimum PV Kuru Çalışma	Kısa Süreli Uygulama	3.6 N/mm ² *m/sn	Isıl Geçirgenlik	42 W(m ² *K) ⁻¹		
	Sürekli Uygulama	1.8 N/mm ² *m/sn	Isıl Genleşme Katsayısı	11*10 ⁻⁶ *K ⁻¹		
Sıcaklık Sınırı	-195°C~+280°C					

CSB-11

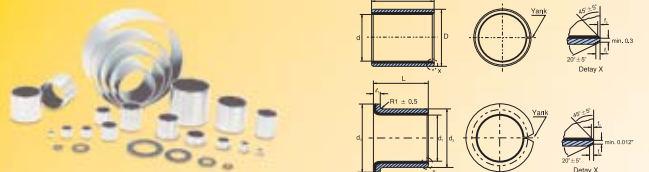
PTFE/Pb Yataklı yüzeyli, Sinter Bronz katmanlı, Bronz gövdeli Burç



Teknik Veriler						
Maksimum Yük	Statik	250 N/mm ²	Sürtünme Katsayısı	0.05-0.20		
	Düşük Hız	140 N/mm ²		Maksimum Hız	Kuru Çalışma	2 m/sn
	Dönüş - Salınım	60 N/mm ²		Hidrodinamik Çalışma Ortamı	> 2 m/sn	
Maksimum PV Kuru Çalışma	Kısa Süreli Uygulama	3.6 N/mm ² *m/sn	Isıl Geçirgenlik	42 W(m ² *K) ⁻¹		
	Sürekli Uygulama	1.8 N/mm ² *m/sn	Isıl Genleşme Katsayısı	11*10 ⁻⁶ *K ⁻¹		
Sıcaklık Sınırı	-195°C~+280°C					

CSB-50

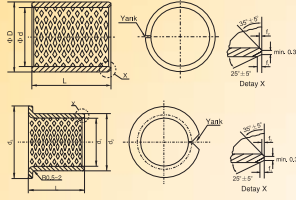
PTFE/Pb Yataklı yüzeyli, Sinter Bronz katmanlı, Çelik gövdeli Burç



Teknik Veriler						
Maksimum Yük	Statik	250 N/mm ²	Sürtünme Katsayısı	0.03-0.20		
	Düşük Hız	140 N/mm ²		Maksimum Hız	Kuru Çalışma	2 m/sn
	Dönüş - Salınım	60 N/mm ²		Hidrodinamik Çalışma Ortamı	> 2 m/sn	
Maksimum PV Kuru Çalışma	Kısa Süreli Uygulama	3.6 N/mm ² *m/sn	Isıl Geçirgenlik	42 W(m ² *K) ⁻¹		
	Sürekli Uygulama	1.8 N/mm ² *m/sn	Isıl Genleşme Katsayısı	11*10 ⁻⁶ *K ⁻¹		
Sıcaklık Sınırı	-195°C~+280°C					

CSB-090(FB090)

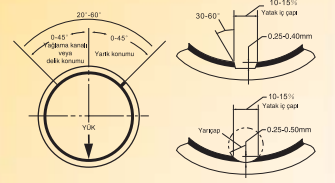
Bükme Bronz Yataklar



Kimyasal yapısı					
Malzeme tipi	Cu%	Sn%	P%	Pb%	Zn%
CSB-090	91.3	8.5	0.2	/	/
Teknik Veriler					
Maksimum Yük	Statik	120 N/mm ²	Sertlik	HB110-150	
	Dinamik	40 N/mm ²		40%	
Maksimum Hız	2 m/sn		Sıcaklık Sınırı	-100°C~+200°C	
Maksimum PV	2.8 N/mm ² *m/sn		Sürtünme katsayısı	0.08-0.25	
Çekme dayanımı	450 N/mm ²		Isıl geçirgenlik	60 W(m ² K) ⁻¹	
Akma sınırı	250 N/mm ²		Isıl genişleme katsayısı	15*10 ⁻⁶ K ⁻¹	

CSB-10HP

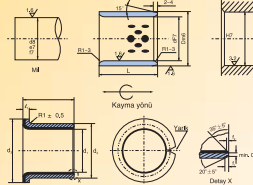
PTFE/Pb Yatak yüzeyli, Sinter Bronz katmanlı, Çelik gövdeli Burç



Teknik Veriler				
Maksimum Yük	Statik	250 N/mm ²	Sıcaklık Sınırı	-195°C~+280°C
	Düşük Hız	140 N/mm ²	Sürtünme Katsayısı	0.03-0.20
Maksimum Hız	Dönüş - Salınım	60 N/mm ²	Maksimum Kuru Çalışma	2 m/sn
	Kısa Süreli Uygulama	3.6 N/mm ² *m/sn	Hidrodinamik Çalışma Ortamı	> 5 m/sn
Maksimum PV Kuru Çalışma	Süreli Uygulama	1.8 N/mm ² *m/sn	Isıl Geçirgenlik	42 W(m ² K) ⁻¹
PV Hidrodinamik Çalışma	60 N/mm ² *m/sn	Isıl Genleşme Katsayısı	11*10 ⁻⁶ K ⁻¹	

CSB-JDB650

Yağlamasız çalışan Grafitlet Bronz Döküm Yataklar



Başlıca metal tipler					
CSB Standart	650# Sağlam döküm bronz	650S1 Bakır alaşım	650S2 Bakır alaşım	650S3 Bakır alaşım	650S5 Özel döküm bronz
Yoğunluk	8.0	8.8	7.6	8.8	8.0
Sürtünme katsayısı	0.03-0.20	0.03-0.18	0.03-0.20	0.03-0.18	0.03-0.20
Isıl geçirgenlik	60 W(m ² K) ⁻¹	60 W(m ² K) ⁻¹	60 W(m ² K) ⁻¹	60 W(m ² K) ⁻¹	60 W(m ² K) ⁻¹
Sıcaklık Sınırı	300°C	400°C	400°C	400°C	300°C
Maksimum yük N/mm ²	100	60	50	70	150
Maksimum hız m/dak.	15	10	20	10	10
Maksimum PV N/mm ² *m/dak.	200	200	200	200	200

Çok ağır yük uygulamaları için CSB özel sert bronz dökümleri üretmesi mümkündür, 650HP gibi, Malzeme sertliği HB270-300 ve hatta üstünde olabilir.

CSB-10DH

PTFE/Elyaf Yatak yüzeyli, Sinter Bronz katmanlı, Çelik gövdeli Burç

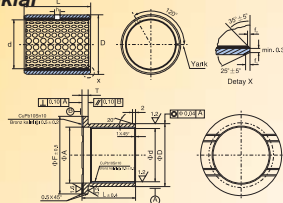


Kurşunsuz

Teknik Veriler				
Maksimum Yük	Statik	250 N/mm ²	Sürtünme Katsayısı	0.05-0.20
	Düşük Hız	140 N/mm ²	Maksimum Kuru Çalışma	2 m/sn
Maksimum Hız	Dönüş - Salınım	60 N/mm ²	Hidrodinamik Çalışma Ortamı	> 2 m/sn
	Kısa Süreli Uygulama	3.6 N/mm ² *m/sn	Isıl Geçirgenlik	42 W(m ² K) ⁻¹
Maksimum PV Kuru Çalışma	Süreli Uygulama	1.8 N/mm ² *m/sn	Isıl Genleşme Katsayısı	11*10 ⁻⁶ K ⁻¹
Sıcaklık Sınırı	-195°C~+280°C			

CSB-800

Çelik, Sinter Bronz katmanlı Yataklar



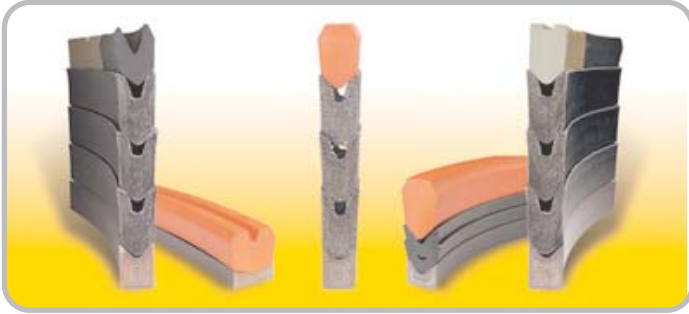
Kimyasal yapısı				
CSB-800	Alaşım yapısı	Uluslararası standart	Alaşım sertliği	
CSB-800	CuPb10Sn10	JIS-LBC3/SAE-797	HB70-100	
CSB-720	CuPb24Sn4	JIS-LBC6/SAE-799	HB45-70	
CSB-700	CuPb30	JIS-KJ3/SAE-48	HB30-45	
CSB-J20	AlSn20Cu	JIS-AJL/SAE-783	HB30-40	
Teknik Veriler				
Maksimum Yük	Statik	120 N/mm ²	Akma sınırı	240 N/mm ²
	Dinamik	60 N/mm ²	Sıcaklık Sınırı	-40°C~+250°C
Maksimum Hız	2 m/sn		Sürtünme katsayısı	0.08-0.20
Maksimum PV	2.8 N/mm ² *m/sn		Isıl geçirgenlik	60 W(m ² K) ⁻¹
Kırılma kuvveti	350 N/mm ²		Isıl geçirgenlik katsayısı	14*10 ⁻⁶ K ⁻¹

CSB-22

PVDF Yatak yüzeyli, Sinter Bronz katmanlı, Çelik gövdeli Burç



Teknik Veriler				
Maksimum Yük	Statik	250 N/mm ²	Sürtünme Katsayısı	0.03-0.20
	Düşük Hız	140 N/mm ²	Maksimum Kuru Çalışma	2 m/sn
Maksimum Hız	Dönüş - Salınım	60 N/mm ²	Hidrodinamik Çalışma Ortamı	> 2 m/sn
	Kısa Süreli Uygulama	3.6 N/mm ² *m/sn	Isıl Geçirgenlik	42 W(m ² K) ⁻¹
Maksimum PV Kuru Çalışma	Süreli Uygulama	1.8 N/mm ² *m/sn	Isıl Genleşme Katsayısı	11*10 ⁻⁶ K ⁻¹
Sıcaklık Sınırı	-195°C~+280°C			



CARCO® TEX



CARCOTEX/UN



CARCOTEX/SG



CARCOTEX/UG



CARCOTEX/SL



CARCO TEX / SP



CARCO TEX / SP / SG



CARCO WIP

CARCO® SEAL



CARCOSEAL/AP



CARCOSEAL/AP/WT



CARCOSEAL/TM



CARCOSEAL/LDS



CARCOSEAL/LA



CARCOSEAL/UN/LL



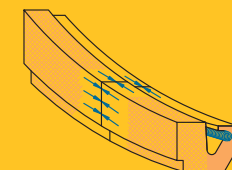
CARCOSEAL/ATLMP®



CARCOSEAL/UN



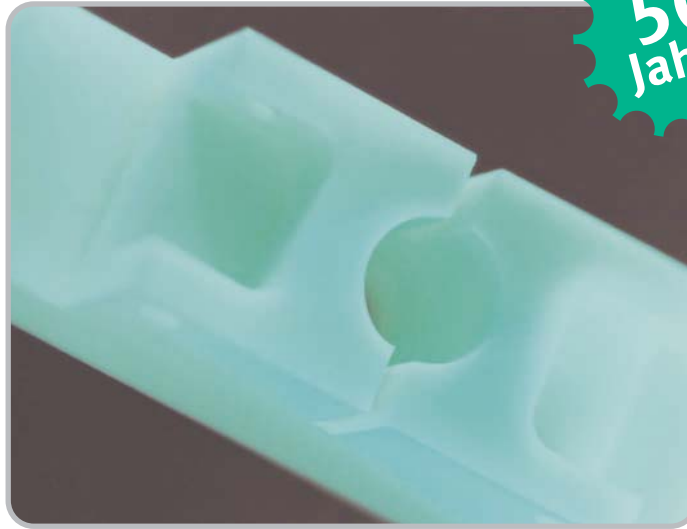
CARCOSEAL/SCA



**CARCOSEAL/UN/SPLIT
CARCOSEAL/SCA/SPLIT**



**CARCOSEAL/UN/SF
CARCOSEAL/SCA/SF**



50
Jahre

Technical Materials

Original Werkstoff "s"
Original Werkstoff "s" 1000
Original Werkstoff "s" 8000
Original Werkstoff "s" plus + GB
Original Werkstoff "s" plus + OIL
Original Werkstoff "s" plus + ESD
Original Werkstoff "s" plus + Bright ESD
Original Werkstoff "s" plus + AB
Muralen® / Muralen® plus + AB
Murlubric®
Murylon®B / Murylon®A
Murylon®A GF / Murylon®6 Guss
Murdopol®
Murytal®C / Murytal®H / Murytal®ESD

Color

Green/White
Green
Anthracite
Light Green
Water Blue
Black
Light Blue
Blue
Blue
Black
White/Beige
Black/Beige
Beige
White/Beige

Code

PE-UHM
PE-UHM
PE-UHM
PE-UHMW
PE-UHMW
PE-UHMW
PE-UHMW
PE-UHMW
PE-HMW
PA6-G/OIL
PA6/PA66
PA66-GF/PA6-G
PA12-G
POM-C/POM-H

High Performance Plastics

Murylat® / Murylat®SP
Murylon®HT
Murinyl®
Murflor® / Murflor® + Kohle / Murflor® + Bronze
Murdotec® SP
Murpec® / Murpec®SP

Color

White/Light Grey
Reddish Brown
White
White/Black/Bronze
Dark Blue
Beige/Black

Code

PETP/PETP-SP
PA4.6
PVDF
PTFE/PTFE-C/PTFE-CuSn
PPS-SP
PEEK/PEEK-SP

OR OTHER BRANDS





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Transmission
Final Drive



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