COMPATIBILITY CALCULATION FOR TRAILERS
(Calculation acc. EC71/320 Annex VIII with all modifications till EC98/12 from 27.01.1998)

KNOTT Bremsen - Achsen

Name: TB2 **Version** 15.07.2004

1. Control device

Manufacturer:	**KNOTT GmbH**
Type	**KF20-A**
EC-Test report no.	361-149-81
ABG -Nr.:	M1449
Complete mass G'A_{min}=	1100 kg
Complete mass G'A_{max}=	2000 kg
Additional force K=	320 N
Usable overrun travel s'=	90 mm
Efficiency h_{HO}=	0,998
Transmission of travel i_{HOmin}=	1,67
Transmission of travel i_{HOmax}=	4
Threshold limit K_A=	420 N
Max. compressive force D_1=	1050 N
Max. pulling force D_2=	5400 N
Lever L_1=	100 mm
Lever L_2=	31 mm
Lever transmission i_{HO}=	**3,23**

2. Brake

Manufacturer:	**KNOTT GmbH**
Type	**20-2425/1 (a**
EC-Test report no.	361-311-83
Certificate no.	Mchn.83/224
perm. Brake capacityG_{BO}=	750 kg
Ø brake drum=	200 mm
Nominal size ρ (kB) =	0,984 m
Travel transmission i_g=	14,50
Min tension travel sB*=	1,6 mm
Return force P_0=	-40 N
max. dyn. Tyre radius dyn. R_{max}=	0,36 m
min. dyn. Tyre radius dyn. R_{min}=	0,253 m
max. brake torque M_{max}=	2300 Nm
Return travel SR=	28 mm
Reversing moment MR=	40 Nm
Travel transmission i_{HW} = s'/i_g/sB* =	3,88

3. Transmission device

Type: Brake Rod — Transmissions i_{H1}= 1,00 — Efficiency h_{H1}= 1,000

Quantity of brakes n **2** — **Tyre size** according Rmin a. Rmax

Rmin 0,253m **Rmax** 0,360m

min. gross weight G_{Amin} **1100 kg** — max. gross weight G_{Amax} **1500 kg**

4. Compatibility Table

Step 50 kg

Perm. Complete weight GA [kg]	Necessary brake force B =0,49*GA*g [N]	Perm. force on coupling D* =0,1*GA*g [N]	Min. dynamic radius dyn. R_{min}= [m]	Max. dynamic radius dyn. R_{max}= [m]	**Force transmission i_{HK}:** Räderanzahl n=2	Threshold ratio 100*K_A/(GA*g) 2-4%	max. damping force 100*D_1/(GA*g) <10%	max towing force 100*D_2/(GA*g) 10-50%
1100 kg	5390	1100	0,253	0,360	2,43	3,82	9,55	49,09
1150 kg	5635	1150	0,253	0,360	2,39	3,65	9,13	46,96
1200 kg	5880	1200	0,253	0,360	2,36	3,50	8,75	45,00
1250 kg	6125	1250	0,253	0,360	2,33	3,36	8,40	43,20
1300 kg	6370	1300	0,253	0,360	2,30	3,23	8,08	41,54
1350 kg	6615	1350	0,253	0,360	2,28	3,11	7,78	40,00
1400 kg	6860	1400	0,253	0,360	2,25	3,00	7,50	38,57
1450 kg	7105	1450	0,253	0,360	2,23	2,90	7,24	37,24
1500 kg	7350	1500	0,253	0,360	2,22	2,80	7,00	36,00

5. Compatibility

Max. brake torque an wheels (n*M_{max})/(B_{max}*R_{max}) = **1,74** (must be greater than 1,2)

Total Efficiency		**max. perm reverse moment**		**Travel ratio**
η = η_{H0} * η_{H1}		MR_{max} = (0,08*g*G_{Amin}*R_{min}) / n		s' / sR
0,998		111,32 Nm		3,21
Force transmission	≤	**Lever transmission**	≤	**Travel transmission**
((B*R_{max}/ρ)+n*Po)/(D*-K)/(ηH_{O}*ηH_{1})		i_{HO} x i_{H1}		s'/i_g/sB*
i_{Hk}	≤	**i_H**	≤	**i_{HW}**
2,43	≤	**3,23**	≤	**3,88**