



Blanks RF Calculation

PREPARED: **P.G.A.Engineering**
 CHECKED:
 APPROVED:
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This calculation is according to ASME B31.3 "PROCESS PIPING"
 Par.304.5.2 Blind Flanges and Par. 304.5.3 Blanks

Pipe Flange Size	NSP CLASS 150 SERIES A 30"		
Schedula Number	XS		
Blank Material	A516 60		
Material Preparation	PLATE OR SHEET		
Allowance (mechanical,corrosion and erosion)	C	1,5	mm
Slight Deformation Can Cause Leakage or Malfunction			NO

CALCULATION

DESCRIPTION	DEF.	Metric		Imperial	
		Values	Unit of Measure	Values	Unit of Measure
INPUT					
Inside Diameter of Gasket	d_G	736,6	mm	29,00	in
Design Pressure	P	2,36	MPa	343	psi
Maximum Design Temperature	T_{MAX}	38	°C	100,4	°F
Minimum Design Temperature	T_{MIN}	0	°C	32	°F
Test Temperature	T_T	20	°C	68	°F
Stress Value for Material	S	138	MPa	19998	psi
Stress Value at Test Temperature	S_T	138	MPa	20000	psi
Quality Factor	E	1	-	1	-
Allowance (mechanical,corrosion and erosion)	c	1,5	mm	1,5	mm

OUTPUT

Pressure Design Thickness	t	41,76	mm	1,64	in
Minimum Thickness Required	t_m	44,8	mm	1,76	in
Minimum Thickness Guaranteed	T_B	47,00	mm	1,85	in
Minimum Commercial Thickness	$T_{B,COMM}$	55,00	mm	2,17	in
Rating Working Pressure	P_{RW}	39,39	MPa	5714	psi
Pressure Rating Class Index	P_R	150	MPa	150	psi
Outside Flange Diameter	O	877,3	mm	34,54	in
Minimum Test Pressure	$P_{T,MIN}$	3,55	MPa	514	psi
Maximum Test Pressure	$P_{T,MAX}$	4,10	MPa	595	psi

VERIFICATION

Description	Check	Action
$T_B \geq t_m$	OK	NONE
$P < P_{RW}$	OK	NONE
T_{MIN} Verification	OK	NONE