

# Schematic „family tree“ Celsite (Kobalt Base Alloys)

Increasing Corrosion Resistance

4798.12 4798.13	<b>DEW Celsit 21</b> Stellite No 21						31
MP, S	DIN EN 14700: P Co1, R Co1 AWS: A 5.21: CoCr-E						RF
P, W							Ad, KV
PS, H							HTW
HIP							S, B, +++
C	Cr	Mo	W	Ni	Fe	Co	
0,3	28,5	5,0		2,8	1,5	Rest	

4798.34 4798.35	<b>DEW Celsit V</b> Stellite No 6						42
MP, S	DIN EN 14700: P Co2, R Co2 AWS: A 5.21: CoCr-A						RF
P, W, G							Ad, KV
PS, H							HTW
HIP							S, B, ++
C	Cr	Mo	W	Ni	Fe	Co	
1,1	28,0		4,5	1,0	1,0	Rest	

4798.29 4798.30	<b>DEW Celsit SN</b> Stellite No 12						48
MP, S	DIN EN 14700: P Co2, R Co2 AWS: A 5.21: CoCr-B						RF
P, W, G							Ad, Ab, KV
PS, H							HTW
HIP							S, B, ++
C	Cr	Mo	W	Ni	Fe	Co	
1,4	29,0		8,5	1,0	1,0	Rest	

4798.26 4798.28	<b>DEW Celsit N</b> Stellite No 1						54
MP, S	DIN EN 14700: P Co3, R Co3 AWS: A 5.21: CoCr-C						BR
P, W, G							Ab, KV
PS, H							HTW
HIP							S, B, +++
C	Cr	Mo	W	Ni	Fe	Co	
2,4	32,0		13,0	1,0	1,0	Rest	

4798.10 4798.11	<b>DEW Celsit 20</b> Stellite No 20						58
MP, S	DIN EN 14700: P Co3, R Co3 AWS: A 5.21: CoCr-C						BR
P, W, G							Ad, KV
PS, H							HTW
HIP							S, B, ++
C	Cr	Mo	W	Ni	Fe	Co	
2,4	33,0		16,5	1,5	1,5	Rest	

4798.22 4798.25	<b>DEW Celsit F</b> Stellite No F or 32						46
MP, S	AWS: A 5.21: CoCr-F						RF
P, W, G							Ad, Ab, KV
PS, H							HTW
HIP							S, B, +
C	Si	Cr	W	Ni	Fe	Co	
1,9	1,0	28,5	12,5	22,5	1,0	Rest	

4798.37	<b>DEW CN20Co50</b> Stellite No 25						22
MP	DIN EN 14700: P Co1						RF
P							Ad, KV
PS, H							HTW
HIP							S, B, +
C	Cr	Mo	W	Ni	Fe	Co	
<0,1	20,0		15,0	10,0	2,5	Rest	

4798.09	<b>DEW Celsit 190-P</b> Stellite No 190						60
MP	DIN EN 14700: P Co3 AWS: A 5.21: CoCr-G						BR
P							Ab, KV
PS, H							HTW
HIP							S, B
C	Cr	Mo	W	Ni	Fe	Co	
3,2	27,0		15,0	1,5	3,5	Rest	

Risk of cracking  
for B > 0,005 %

B-Limits (Risk of cracking after welding)

Risk of cracking  
for B > 0,010 %

Risk of cracking  
for B > 0,015 %

- a. DEW material No.
- b. Product form
- c. Welding technique
- d. Thermal spraying
- e. Powder met.

a	<b>DEW Brand</b>						f
b	<b>Stellite Type</b>						g
c	EN-/ISO-/DIN-Norm AWS-Norm						h
d							i
e							k
C	Cr	Mo	W	Ni	Fe	Co	
1,0	27,5		4,5	1,0	1,0	Rest	

- f. Hardness
- g. Coating characteristic
- h. Wear type
- i. Thermal resistance/hardness
- k. Corrosion resistance

**Explanation:**

- b. Product form: MP (metal powder), R (Rod)
- c. Welding technique: P (PTA), T (TIG), G (Gas)
- d. Thermal spraying: FK (Cold), FW (Hot), SW (Spray welding), PS (Plasma spraying), H (HVOF)
- e. Powder met.: HIP (Hot isostatic pressing)
- f. Hardness: HRC
- g. Coating characteristic: RF (Crack free), BR (Conditionally crack free)
- h. Wear type: Ab (Abrasion), Ad (Adhesion), KV (Cavitation)
- i. Thermal resistance/hardness (HTW)
- k. Corrosion resistance: S (Acid), B (Bases), ---/--/--/+/++/+++ Ranking

Welding: crack free

Welding: conditionally crack free

Wear resistance:  
Adhesion

+C, +W, +Ni

-C, -Cr, +Ni

Wear resistance:  
Adhesion + Abrasion

Wear resistance:  
Abrasion

+C, -Cr, +Fe

Hardness