

API					Process		EXCIPIENT SELECTION				Comments	JRS Formulation Examples Reference
Dose	Flowability ¹⁾	Compactibility ²⁾	Solubility ³⁾	Challenges	Recommended Method ⁴⁾	Binder	Filler/Binder	Disintegrant	Lubricant			
1	> 60 %	H	H	H	no particular challenge	DC	no binder	VIVAPUR® MCC (any DC grade), EMCOCEL® 90 MCC PROSOLV® SMCC or EMDEX® Dextrates	VIVASOL® CCS	PRUV®SSF or Mg stearate	select filler/binder grade according to API's particle size distribution	Ranitidine HCl 4282-020
							PROSOLV® EASYtab SP				add more disintegrant and lubricant, if need should be	
2	> 60 %	H	H	L	dissolution	DC	no binder	VIVAPUR® MCC (any DC grade) EMCOCEL® 90 MCC or PROSOLV® SMCC	VIVASTAR® SSG or EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF	select filler/binder grade according to API's particle size distribution	Acetylsalicylic Acid 4282-001, 4282-023, Cefalexin 4282-040 Cotrimazole 4282-053 Mebendazole 4282-067
							PROSOLV® EASYtab SP				add more disintegrant and lubricant, if need should be	
3	> 60 %	H	L	H	compaction	WG (fluid bed)	VIVAPHARM® PVP K 30 or VIVAPHARM® HPMC E 6	PROSOLV® SMCC 50 (intragranular) PROSOLV® SMCC 90 (extragranular)	VIVASOL® CCS	PRUV®SSF or Mg stearate		
4	> 60 %	H	L	L	compaction dissolution	WG (fluid bed)	VIVAPHARM® PVP K 30 or VIVAPHARM® HPMC E 6	PROSOLV® SMCC 50 (intragranular) PROSOLV® SMCC 90 (extragranular)	VIVASOL® CCS and either of the following: VIVASTAR® SSG, EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF	use VIVASOL® extragranularly and other disintegrants in the granules	Paracetamol 4282-060 (DC Formulation with PROSOLV® EASYtab SP)
5	> 60 %	L	H	H	powder flow	RC	VIVAPHARM® PVP/VA 64	Blend of VIVAPUR® 101 MCC (60 %) and EMCOMPRESS® DCP (40 %)	VIVASOL® CCS	PRUV®SSF or Mg stearate	use part of the binder extragranularly	
6	> 60 %	L	H	L	powder flow dissolution	RC	VIVAPHARM® PVP/VA 64	Blend of VIVAPUR® 101 MCC (60 %) and EMCOMPRESS® DCP (40 %)	VIVASOL® CCS and either of the following: VIVASTAR® SSG, EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF	use part of the binder extragranularly use VIVASOL® extragranularly and other disintegrants in the granules	Ciprofloxacin HCl 4282-006
7	> 60 %	L	L	H	powder flow compaction	WG (high shear)	VIVAPHARM® PVP K 30 or VIVAPHARM® HPMC E 6	Intragranular: Blend of PROSOLV® SMCC 50 (70 %) and EMCOMPRESS® Anhydrous (30 %) Extragranular: PROSOLV® SMCC HD 90	VIVASOL® CCS	PRUV®SSF or Mg stearate		
8	> 60 %	L	L	L	powder flow compaction dissolution	WG (high shear)	VIVAPHARM® PVP K 30 or VIVAPHARM® HPMC E 6	Intragranular: Blend of PROSOLV® SMCC 50 (70 %) and EMCOMPRESS® Anhydrous (30 %) Extragranular: PROSOLV® SMCC HD 90	VIVASOL® CCS and either of the following: VIVASTAR® SSG, EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF	use VIVASOL® extragranularly and other disintegrants in the granules	
9	5-60 %	H	H	H	no particular challenge	DC	no binder	VIVAPUR® MCC (any DC grade), EMCOCEL® 90 MCC, PROSOLV® SMCC or EMDEX® Dextrates	VIVASOL® CCS	PRUV®SSF or Mg stearate		
							PROSOLV® EASYtab SP				add more disintegrant and lubricant, if need should be	
10	5-60 %	H	H	L	dissolution	DC	no binder	VIVAPUR® MCC (any DC grade) or EMCOCEL® 90 MCC or PROSOLV® SMCC	VIVASTAR® SSG or EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF		Cimetidine 4282-025 Enalapril + HCT 4282-043 Diazepam 4282-022
							PROSOLV® EASYtab SP				add more disintegrant and lubricant, if need should be	
11	5-60 %	H	L	H	compaction	DC	VIVAPHARM® PVP/VA 64	PROSOLV® SMCC 50 or PROSOLV® SMCC 50 LD	VIVASOL® CCS	PRUV®SSF or Mg stearate		Metoprolol 4282-016 Propranolol HCL 4282-062 (Formulation with PROSOLV® EASYtab SP)
12	5-60 %	H	L	L	compaction dissolution	DC	VIVAPHARM® PVP/VA 64	PROSOLV® SMCC 50 or PROSOLV® SMCC 50 LD	VIVASTAR® SSG or EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF		Hydrochlorothiazide 4282-056 Ginkgo Biloba Extract 4282-009
13	5-60 %	L	H	H	powder flow	RC	VIVAPHARM® PVP/VA 64	PROSOLV® SMCC 50 (ribbon) PROSOLV® SMCC 90 (external phase)	VIVASOL® CCS and either of the following: VIVASTAR® SSG, EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF or Mg stearate	alternatively use a blend of PROSOLV® SMCC 50 LD (70 %) and EMCOMPRESS® Anhydrous (30 %) in the ribbon	
14	5-60 %	L	H	L	powder flow dissolution	RC	VIVAPHARM® PVP/VA 64	PROSOLV® SMCC 50 (ribbon) PROSOLV® SMCC 90 (external phase)	VIVASOL® CCS and either of the following: VIVASTAR® SSG, EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF	alternatively use a blend of PROSOLV® SMCC 50 LD (70 %) and EMCOMPRESS® Anhydrous (30 %) in the ribbon	Simethicone Chewable 4282-021/-045 Theophylline 4282-063 (DC Formulation)
15	5-60 %	L	L	H	powder flow compaction	RC	VIVAPHARM® PVP/VA 64	PROSOLV® SMCC 50 LD (ribbon) PROSOLV® SMCC 90 (external phase)	VIVASOL® CCS and either of the following: VIVASTAR® SSG, EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF or Mg stearate	alternatively use a blend of PROSOLV® SMCC 50 LD (70 %) and EMCOMPRESS® Anhydrous (30 %) in the ribbon, use binder intra- and extragranularly	Silymarin 4282-036
16	5-60 %	L	L	L	powder flow compaction dissolution	RC	VIVAPHARM® PVP/VA 64	PROSOLV® SMCC 50 LD (ribbon) PROSOLV® SMCC 90 (external phase)	VIVASOL® CCS and either of the following: VIVASTAR® SSG, EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF	alternatively use a blend of PROSOLV® SMCC 50 LD (70 %) and EMCOMPRESS® Anhydrous (30 %) in the ribbon, use binder intra- and extragranularly	Ibuprofen 4282-057, 4282-013 Phloroglucinol 4282-048 (DC Formulations with PROSOLV® SMCC)
17	< 5 %	-	-	H	content uniformity	DC	no binder	PROSOLV® SMCC 90	VIVASTAR® SSG or EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF or Mg stearate	geometric blending to ensure content uniformity	
							PROSOLV® EASYtab SP				geometric blending to ensure content uniformity	
18	< 5 %	-	-	L	content uniformity	DC	no binder	PROSOLV® SMCC 90	VIVASTAR® SSG or EXPLOTAB® SSG or VIVAPHARM® PVPP	PRUV®SSF	geometric blending to ensure content uniformity	Risperidone 4282-049 Chromium Picolinate 4282-005 Enalapril Maleate 4282-007
							PROSOLV® EASYtab SP				geometric blending to ensure content uniformity	Amlodipine 4282-050 Piroxicam 4282-061

1) according to Ph.Eur. 2.9.36.
 2) H = pure API compactibility equal or higher than EMCOMPRESS® Premium (Calcium Hydrogen Phosphate Dihydrate)
 L = pure API compactibility lower than EMCOMPRESS® Premium (Calcium Hydrogen Phosphate Dihydrate)
 3) according to Ph.Eur. 5.11.
 H = soluble, freely soluble, and very soluble
 L = sparingly soluble, slightly soluble, and very slightly soluble
 4) DC = direct compression
 WG = wet granulation
 RC = roller compaction

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Bringing Health Science to Life

Tablet Formulation Guide

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