



120 Valley Court
 Oak Ridge, TN 37830
 Ph: 865-482-5717
 FAX: 865-482-1281
 zypcoatings.com

Binders

Group 1 -- Solvent-based (Flammable) Binder/Suspension-Agent

- a. BNSL Binder [good adherence in all atmospheres; binder is unreactive with most all materials]
- b. YK Binder/Thinner [very soft "washcoating" type binder; only for inert/vacuum use]

Group 2 -- Water-based Binder/Suspension-Agent/Sealant/Rigidizer

- c. Gel-P Binder [Acidic pH; strong binder]
- d. HPC Binder [Neutral pH; soft "washcoating" type binder]
- e. LRC Binder [Acidic pH; moderately strong binder]
- f. YZ Binder/ Thinner [Neutral pH; very soft "washcoating" type binder; only for inert/vacuum use]
- g. ZAP Binder [Acidic pH; strong binder] -- 3-6 months shelf life.
- h. Toughseal [Acidic pH; strong binder] --used for sealing/rigidizing surfaces; 3-6 months shelf life.
- i. Z-Primercoat [Basic/Alkaline pH; strong binder] -- mostly used for sealing; OK to topcoat with Acidic or Basic pH coatings generally; used to seal in residual bone-ash on used billet-casting tables.

Binder or Suspension-Agent, Sealant or Rigidizer Liquids

Properties	BNSL	YK	Gel-P	HPC	LRC	YZ	ZAP	Toughseal	Z-Primercoat
Max. Use Temp (C)	1600	2000	1500	1500	1900	2000	1600	1600	900
Use Atmosphere	All	Vac/Inert	All	All	All	Vac/Inert	All	All	All
Hardness	Medium	Low	High	Low	Low-Medium	Low	High	High	High
Water Resistance	Medium	Low	High	Low	Low	Low	High	High	High
Ability to Suspend Solids	Med	Low	High	Medium	High	Low	Low	Low	Med
Constituents	MgSiO _x	Cellulosic	Al ₂ O ₃ P ₂ O ₅ SiO ₂	MgSiO _x	Al ₂ O ₃	Cellulosic	Al ₂ O ₃ P ₂ O ₅	Al ₂ O ₃ P ₂ O ₅	K ₂ SiO ₃
Liquid Carrier	Ethanol Acetone	Ethanol Ethyl Aceto- acetate	Water Ethanol	Water	Water	Water	Water Ethanol	Water Ethanol	Water
Brookfield Viscosity (cps)	185@2/60	40@1/60	300@3/60	800@3/60	1100@3/60	200@2/60	90@2/60	90@2/60	90@2/60
Specific Gravity	0.8	0.9	1.2	0.8	1.0	1.0	1.2	1.2	1.2
pH	N.A	N.A.	2-3	7-8	2-3	7-8	2-3	2-3	9-10
H-F-R Ratings	1-3-0	1-2-0	1-1-0	1-0-0	1-0-0	0-0-0	1-1-0	1-1-0	2-0-1
% Volatiles	97	97	70	>98	97	97	76	76	76

Note: All have >12 months shelf life except as noted.