



GLASSMAN 2013 Las Vegas September 12th

Wiegand-Glas Experiences with XPAR IR-D / Gobassist

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History with XPAR Infrared- and Gob-Assist Systems at Wiegand-Glas

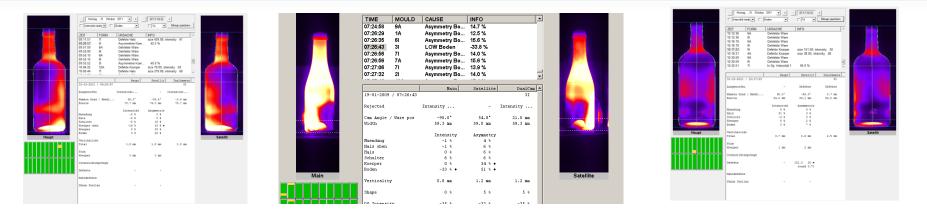
- First Contact with XPAR at Glasstec 2000
- 2001 Installation of the first IR-21 System
- 2002 Installation of 2nd IR-21 System
- 2005 First Polysigma System
- 2008 Installation of the first IR-D
- Since 2012 all 14 lines in both Wiegand plants are equiped with IR-D Systems
- Since 2011 we have one Gob-Assist System installed at a EMHART 12 Section NIS TG Line

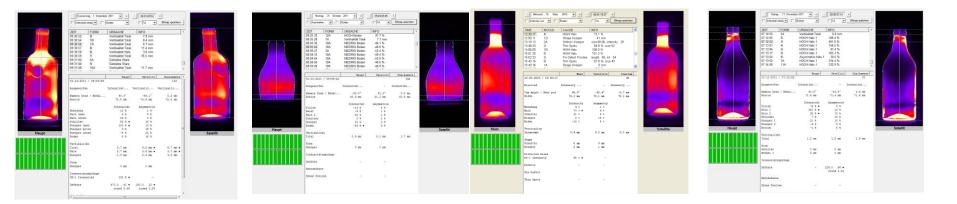






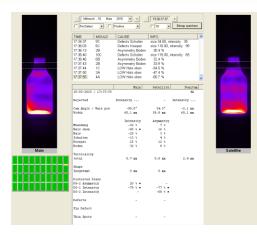
IR-D Reject Options some Examples



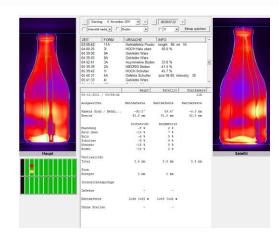


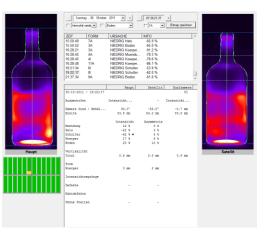


IR-D Reject Options some Examples

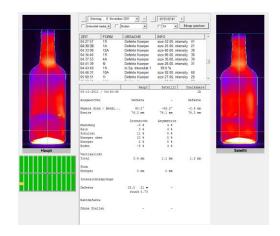


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- permanent control of all measurable gob parameters before loading into the blanks
- to find out critical points and adjustments regarding the delivery system
- evaluate the influence of swabbing (oiling) deflectors
- to find a correlation between the measured parameters and bottle quality





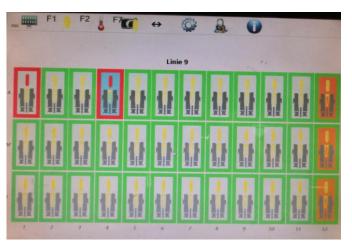
Measuring Equipments

Gob-Assist by XPAR Vision (at Line 9 12sect NIS)

permanent control of

- gob lenght
- gob speed
- TOA (time of arrival)
- gob diameter
- gob loading position (x,y)
- gob orientation (trajectory)
- alarm setting possible in two ways (full machine average or reference/cavity)

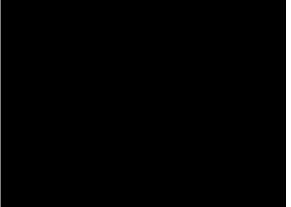




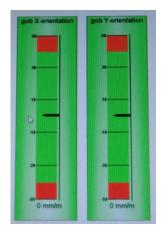


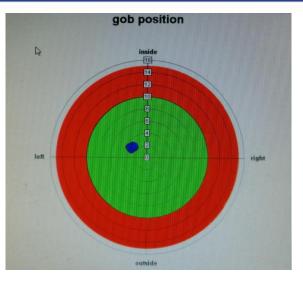
XPAR Gob-Assist

gob loading position



gob loading orientation



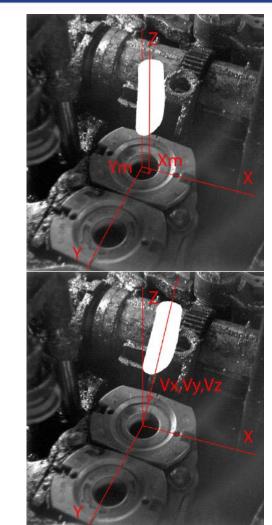


Orientation definition



The orientation is the angle between the trajectory of the falling gob and the top of the mould.

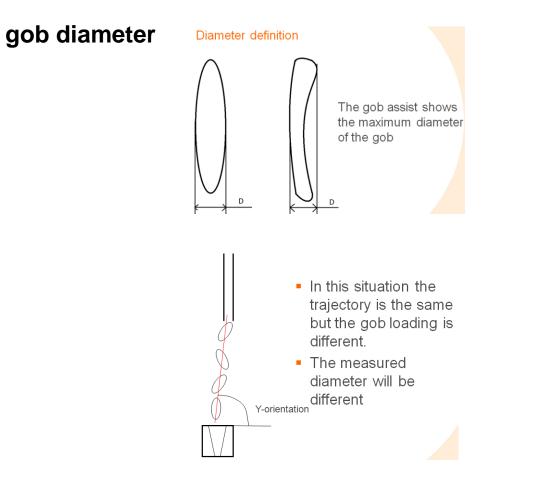
Three dimensional: two angles!

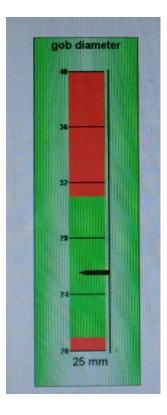






XPAR Gob-Assist

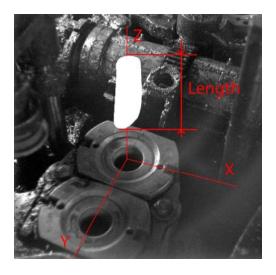






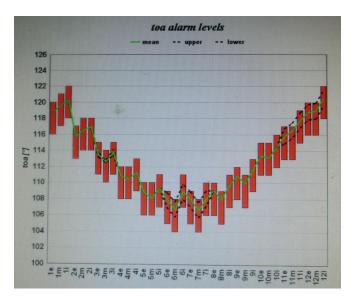
XPAR Gob-Assist

gob lenght



TOA (time of arrival)

time given in machine degrees for all cavities



gob speed

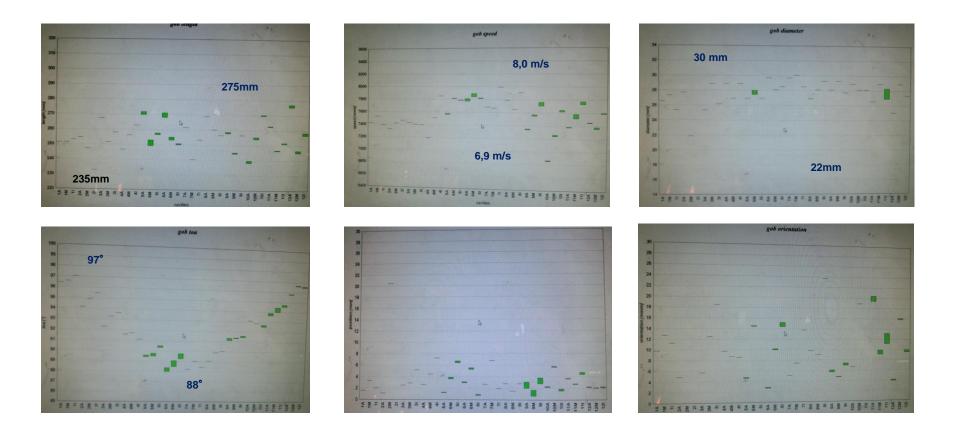
measured in m/s before loding





Overview Full Machine NIS 12 sect NNPB 700ml 315gr

delivery on for 6 days



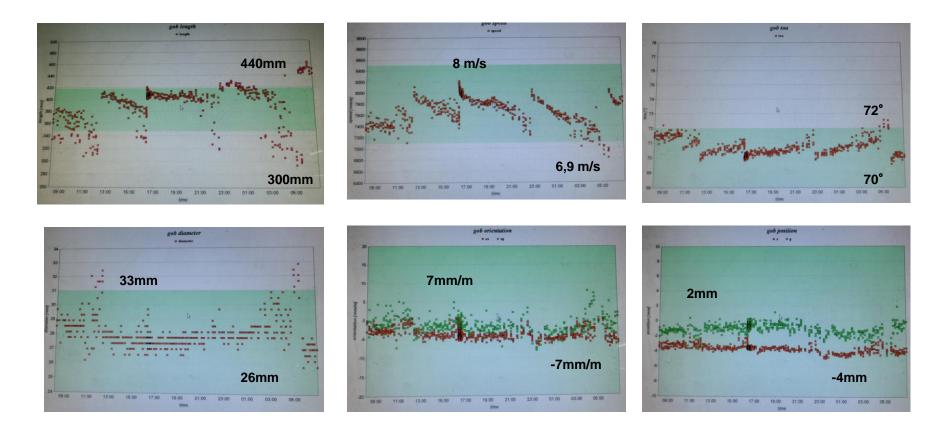
Wiegand-Glas

Big variations!

Gob TOA can be used to perfectly adjust the section differential !!! symmetric sections should have the same values regarding lenght and speed



Tremendous Variation during 24h NIS Section 5 Outer 480gr 750ml Bordeaux BB



is it real ??? are Gob-Assist Measurements right?? what is the cause for the variations??





Measuring Equipments

GTS PGM V (Rondot Speedgob)

only gob speed and lenght, but at different positions between the shear mechanism and the end of the deflector

disadvantage: measurements are time-consuming single measurements are not significant

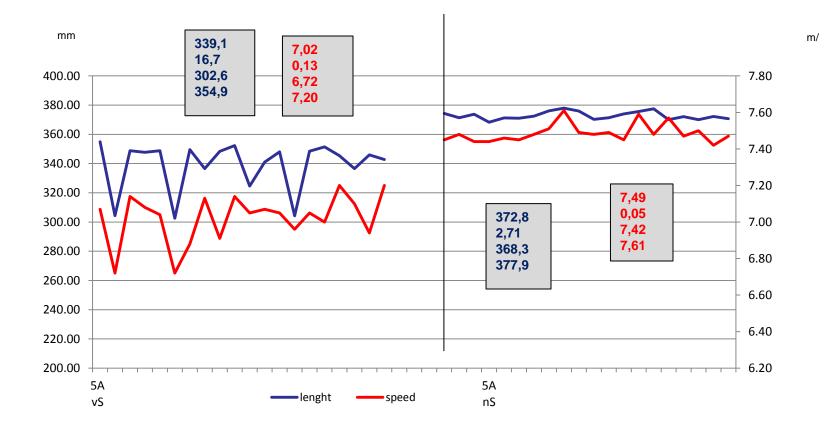






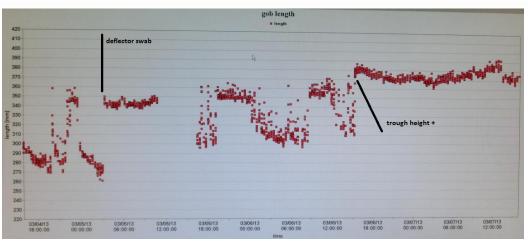
gob lenght and speed with PGM V NIS Section 5 Outer 480gr 750ml Bordeaux BB

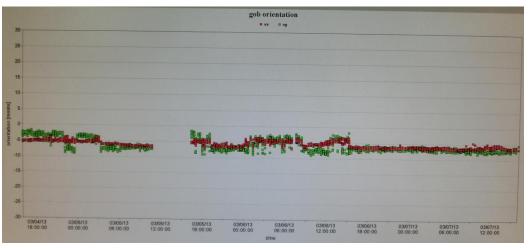
before and after swabbing the deflector (point of gob impact)





gob lenght and orientation over 4 days NIS Section 5 Outer 460gr 1000ml BB





speed and lenght are changing

orientation is influenced slightly

swabbing is mostly short-time effective

effect of increase trough height is long-term effective

decrease of speed at transition means a loss of energy

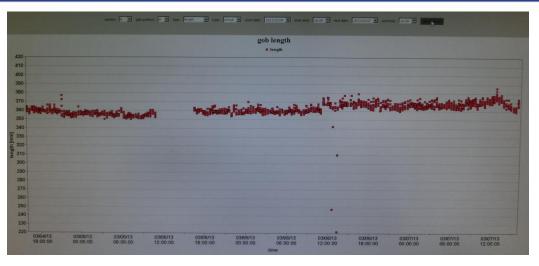
these energy is ,killing' the coating this is even worse with heavier gobs

next slide shows symmetric section 8A





gob lenght and orientation over 4 days NIS Section 8 Outer 460gr 1000ml BB



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					vx = vy				
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no variations! why??

gob transition from trough to deflector trough height!!!

problem:reproducability of trough

height

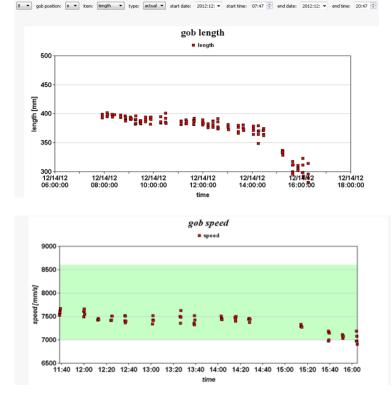




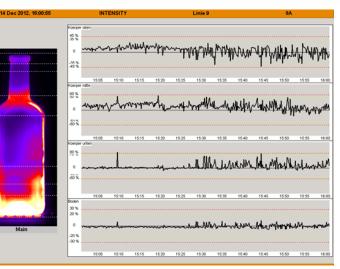




Bad Loading NIS sect 8A 750ml Bordeaux 480gr BB



decrease in gob lenght, increase in gob diameter may cause ,birdswings' !!

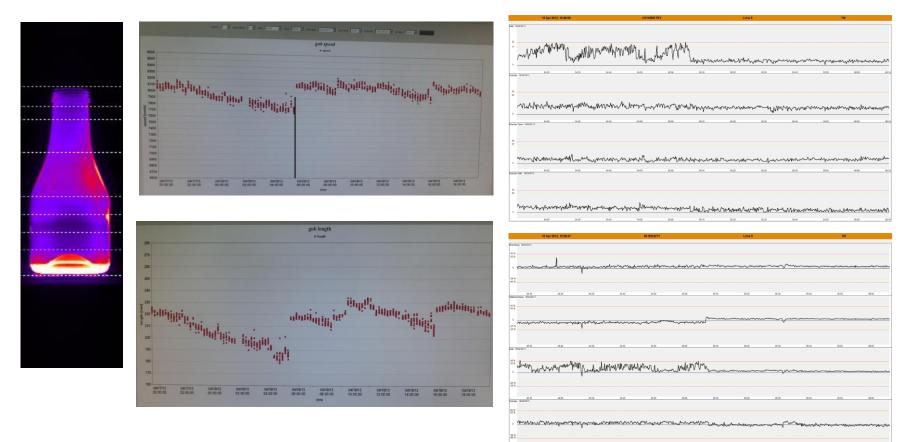


14 Dec 2012, 16:02:28		Rejects are	on	Linie 9		
	TIME	MOULD	CAUSE	INFO		
	15:08:43	10A	Defects Schulter	size 50, intensity	60	
	15:08:49	6A	HIGH Hals	86.9 %		
	15:09:05	21	HIGH Hals	79.0 %		
	15:09:29	8A	DG Intensity 4	149.0 %		
	15:19:20	8A	DG Intensity 4	76.0 %		
	15:19:27	6A	HIGH Hals	92.3 %		
	15:19:39	8A	Defects Schulter	size 112, intensity	53	
	15:21:17	2M	DG Intensity 2	61.0 %		
	15:23:07	101	Shape Schulter	24.4 mm		
	15:26:51	8A	DG Intensity 4	77.0 %		
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	15:28:53	8A	DG Intensity 3	-53.0 %		
	15:30:27	8A	DG Intensity 4	75.0 %		
	15:30:36	8A	DG Intensity 4	106.0 %		
	15:31:04	8A	DG Intensity 4	106.0 %		
	15:31:42	8A	DG Intensity 4	92.0 %		
	15:31:51	BA	DG Intensity 4	88.0 %		
	15:33:58	7M	DG Intensity 2	133.0 %		
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and the second se	15:38:07	8A	DG Intensity 4	53.0 %		
	15:38:25	8A	DG Intensity 4	57.0 %		
	15:40:06	6A	HIGH Hals	91.1 %		
	15:40:09	8A	DG Intensity 4	71.0 %		
	15:43:16	8A	DG Intensity 4	64.0 %		
	15:43:26	8A	DG Intensity 2	-51.0 %		
	15:44:22	8A	DG Intensity 4	57.0 %		
	15:44:50	84	Defects Hals	size 164, intensity	54	
	15:44:59	84	Defects Hals	size 136, intensity		
	15:46:43	BA	DG Intensity 4	-54.0 %		
Main	15:47:01	8A	DG Intensity 4	59.0 %		Satellit
	15:50:37	84	DG Intensity 4	59.0 %		
	15:50:47	84	DG Intensity 4	65.0 %		
	15:51:24	8A	HIGH Muendung	48.1 %		
	15:55:14	21	HIGH Hals	103.3 %		
	15:55:47	8A	Defects Schulter	size 59, intensity	57	
	15:59:40	61	HIGH Hals	109.4 %		
	16:00:10	84	DG Intensity 4	54.0 %		
	16:00:38	84	DG Intensity 4	51.0 %		





Bad Loading NIS sect 7M 200ml Sparkling Wine 206gr BB



shorter gob – more glass in neck higher asymmetry

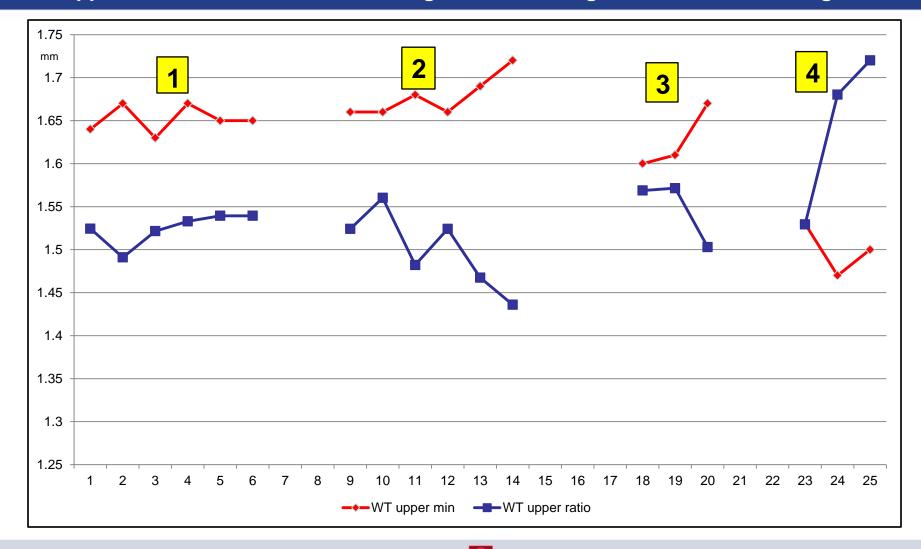


Visual Fault in Neck Area





WT Upper Contact Sect 4A Changed Gob Loading Position 1000ml 460gr BB



Wiegand-Glas



Conclusions

- Even with the improved (compared to 12 sect AIS/IS) NIS delivery system we see big variations of the measurable gob parameters which have an influence on the container quality
- if you can't measure online, you depend on the skillness/experience of the machine operators
- the reproducability regarding adjustments of the different delivery system parts is not good!
- most critical is the transition point trough to deflector!!
- constant lubrication of the impact point will compensate problems, but is in contradiction to ,dry delivery' and may create other problems





Thanks for your Attention !!

Any Questions ??

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