

# FM Industries Advanced Coatings<sup>®</sup> - Standard Coatings and Services for Semiconductor Tools

Product / Service	Product / Service Description	Material	Erosion Resistance	Corrosion Resistance	Temperature Resistance	Purity
LY-100	1 <sup>st</sup> Generation legacy Yttria coating. This product has a large install base primarily servicing conductive etch tools.	Yttrium Oxide	Good	Fair	<120°C	High
LY-102	2 <sup>nd</sup> Generation Yttria with improved density. Designed to meet the demands of more aggressive chemical environments. Plasma erosion resistance and purity are improved over LY-100.	Yttrium Oxide	Very good	Fair	<120°C	Very High
LY-103	This 3 <sup>rd</sup> generation product builds on the improved density of LY-102 and combines it with a higher purity material. At 99.98%, this is our highest purity coating.	Yttrium Oxide	Very good	Good	<140°C	Ultra High
LY-103HT	High temperature resistant version of LY-103. Material and purity remain unchanged in this version of LY-103. By changing certain coating parameters, we are able to better match the CTE of the aluminum substrate increasing temperature survivability.	Yttrium Oxide	Fair	Fair	> 300°C	Ultra High
LY-113	This coating was designed as a replication of our LY-103 coating utilizing an alternate sourced material that maintains the highest purity level while being more cost competitive.	Yttrium Oxide	Very good	Good	<140°C	Ultra High
LY-113B	Densified Yttria - Unlike standard yttria, this coating is black with high emissivity and is one of our densest coating offering.	Yttrium Oxide	Best	Very Good	<120°C	Ultra High
ALC-CP4 <sup>SM</sup>	This service is an FSPS <sup>SM</sup> service providing a 4 <sup>th</sup> generation composite coating. This service provides an Architecturally Layered Coating (ALC) interface to maximize temperature and corrosion resistance. The co-phase layer is then capped with our 3 <sup>rd</sup> generation yttria (LY-103) coating to maximize plasma erosion resistance and purity.	Proprietary blend base layer. Yttrium Oxide	Very good	Best	> 300°C	Ultra High
ALC-CP5 <sup>SM</sup>	This service is an FSPS <sup>SM</sup> service providing a 4 <sup>th</sup> generation composite coating. Like ALC-CP4 <sup>SM</sup> , this service provides an Architecturally Layered Coating (ALC) interface to maximize temperature and corrosion resistance. The co-phase layer is then capped with our densified yttria (LY-113B) coating, providing the highest resistance to plasma erosion.	Proprietary blend base layer. Yttrium Oxide	Best	Best	> 300°C	Ultra High
LZ-100/200	Yttria Stabilized Zirconia - Fully Stabilized. This material has very good resistance to Chlorine environments.	YSZ	Fair	Very Good	> 200°C	High
LTP-100/200	Proprietary co-phase blended coating	Proprietary blend material	Good	Best	> 300°C	High
LA-60/63	High Purity Alumina	Aluminum Oxide	Poor	Fair	<120°C	Very High

