



New: FEINMETALL „Progressive Series“

Progressive probes for advanced requirements and lead-free soldering pads

Problem:

The test of printed boards, which are tested after a longer shelf time or in an unclean state, often challenge the application of the spring contact probes with a process problem. The surface area of, for e.g. lead-free soldering pads, exhibits viscous /stringy flux-contamination as also harder and thicker oxide layers. Such surface areas and intensified addition of contamination at the contact tips lead to a deterioration of the electrical characteristic during tests. Moreover the mechanical penetration gets all the more difficult and thereby reducing the life cycle of the contact tips considerably.

Solution:

The new FEINMETALL product line “Progressive Series” combines decades of professional experience on research and development as well as the production of spring contact probes with new technical perception on surface coating. This know-how enables the end-user to switch over to lead-free-soldered products or to other extreme applications and a longer trouble-free operation of the system.

Aggressiveness of the tip styles:

The FEINMETALL longitudinal grind realised on the spring contact probes can be identified through concave, progressive cutting edge geometry with sharper edges and points. The distinctive microstructure of the surface in the contact direction enables an effective penetration, thereby increasing the penetration depth of the contact tip by up to 50%.



Standard-Grinding



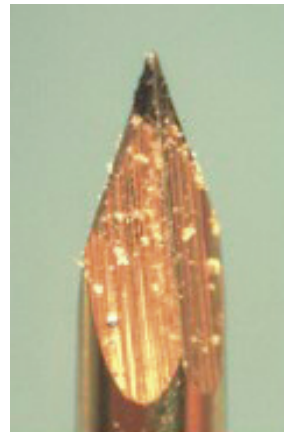
FEINMETALL-Grinding



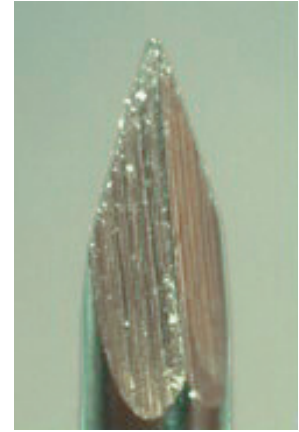
New functional coating:

The new progressive functional coating enhances the durability of the contact surface. At the same time it is also lesser susceptible for contamination, especially through soldering.

Due to 3 to 4-times more hardness in comparison to conventional hard gold FEINMETALL **“Progressive Coating”** features a higher life cycle.



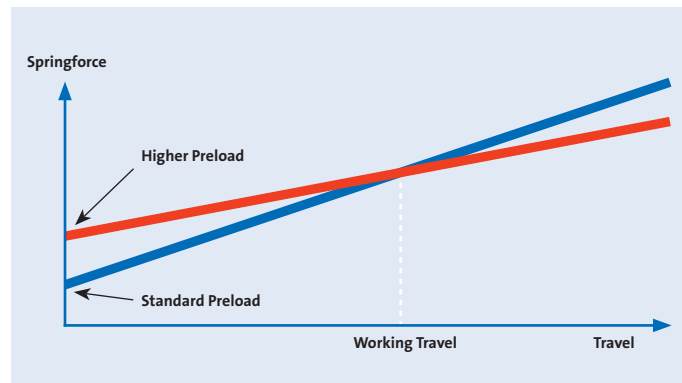
Standard surface hard gold
Contamination after 1/2 Mio contacts



FEINMETALL “Progressive Coating”
Contamination after 1/2 Mio contacts

Higher Preload:

The contact force over the entire working travel up to the recommended working is raised by an increased preload of minimum 100%. This increased preload is available immediately after the contacting of the DUT. The nominal force at the recommended working travel remains unchanged as standard, without increasing the pressure load on the DUT. The flatter force – travel characteristic clearly shows the lower sensitiveness of the contact force on any changes to the working travel.



ORDER EXAMPLES

Series	Tip style	Material of the plunger	Tip Ø	Coating (finish) of the plunger	Springforce in cN	Higher preload
F100	33	S= Steel	090	P= Progressive Coating	300	HP
F075	33	S= Steel	064	P= Progressive Coating	250	HP
F050	33	S= Steel	050	P= Progressive Coating	200	HP

Series	Preload (in cN)	Spring Force at Working Travel (in cN)
F100	200	300
F100	130	200
F075	150	250
F075	100	200
F050	125	200

Aggressive tip styles, Material Steel, Tip Diameter (mm)



21	33	43	62	Further tip styles on request
F100: Ø 0,90 F075: Ø 0,64 F050: Ø 0,50	F100: Ø 0,90 F075: Ø 0,64 F050: Ø 0,50	F100: Ø 0,90 F075: Ø 0,64 F050: Ø 0,50	F100: Ø 0,90 F075: Ø 0,64 F050: Ø 0,50	