



PRODUCT DATA

FERRO TECHNOLOGIES, INC.

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FERROTECH CPN-5L

FERROTECH CPN-5L is a water reducible pigmented core plate varnish of C-5 type for electrical (silicon and carbon) steel insulation. It is applied to a steel strip on continuous lines by roll coat method. Varnish is used as received, but can be diluted by water. After curing at very low temperature, 115 - 160°C, it provides high electrical resistivity and good adhesion to the strip: there is no peeling after a 180 degree bend, using Scotch Brand 610 Tape. There are many C-5 formulations, which can withstand stress-relief annealing without losing their insulating properties, when they have free access of furnace atmosphere. After stack annealing they degrade and will not pass Franklin test. **FERROTECH CPN-5L** is a non-degrading coating, which can tolerate wet stress-relief annealing at 850-870°C in stacks and still preserves high electrical resistance, though will not prevent additional decarburization. After high temperature anneal it still has good adhesion. This coating does not reduce magnetic permeability or increase core loss and demonstrate no magnetic properties change on aging. Due to its chemical composition this coating has a silky smooth surface, will not dust while punching and significantly prolongs the die life. **FERROTECH CPN-5L** is compatible with vanishing oils or other similar, used as a blanking lubricant, prior to stress annealing.

CHEMICAL AND OPERATING DATA

APPEARANCE	Milky gray liquid
SPECIFIC GRAVITY, g/cm ³	1.15 - 1.17
WEIGHT PER GALLON, LB	9.6
TOTAL SOLIDS BY WEIGHT, %	28
TOTAL SOLIDS BY VOLUME, %	15
SOLUTION pH	7.5 - 9.0
THICKNESS BEFORE CURING, μm	9 - 12
THICKNESS AFTER CURING, μm	1.5 - 2
CURING TEMPERATURE, °C	115 - 160 (240 - 320 °F)
CURING TIME, sec	15 - 20
USE CONCENTRATION	As received
VISCOSITY (ZAHN CUP #3), sec	15 -25
COVERAGE, sq.f/gal	4000

SAFETY & HANDLING

FERROTECH CPN-5L has shelf life up to 2 months and should not be frozen while storage. It is corrosive material. Use rubber gloves, apron, boots and wear goggles or face shield when handling.