```
ma-compatible_wf  THM

⊢  ∀M1,M2:MsgA. M1 || M2 ∈ Prop
  by Unfold `ma-compatible` 0 THEN All_MsgA THEN Analyze 0
     THEN
     Unfold_MsgA -1
     THEN
     RW (AddrC [2] (UnfoldTopC `and` THENC FoldTopC `cand`)) 0
     THEN
     Try DoSubsume
     THEN
     Try
     (BackThru
      Thm* ∀B1,B2:(A→Type).
           (∀a:A. B1(a) ⊆r B2(a))
           ⇒
           (a:A fp-> B1(a) ⊆r a:A fp-> B2(a))
      {subtype_DASH_fpf2})
     THEN
     Repeat UseSubtypeRelLemmas
     THEN
     Try (Unfold `ma-valtype` 0)
     THEN
     Try
     (BackThru
      Thm* ∀eq:EqDecider(X), f,g:x:X fp-> Type, x:X.
           g ⊆ f ⇒ (f(x)?T ⊆r g(x)?Top)
      {subtype_DASH_fpf_DASH_cap_DASH_top})
     THEN
     Try
     (BackThru
      Thm* ∀eq:EqDecider(X), f,g:x:X fp-> Type, x:X.
           f ⊆ g ⇒ (f(x)?Void ⊆r g(x)?T)
      {subtype_DASH_fpf_DASH_cap_DASH_void})
     THEN
     Try
     (BackThru
      Thm* ∀B1,B2:(A→Type), eq:EqDecider(A), f:a:A fp-> B1(a),
            g:a:A fp-> B2(a). f ⊆ f ⊕ g
      {fpf_DASH_sub_DASH_join_DASH_left})
     THEN
     Try
     (BackThru
      Thm* ∀B:(A→Type), eq:EqDecider(A), f,g:a:A fp-> B(a).
           f || g ⇒ g ⊆ f ⊕ g
      {fpf_DASH_sub_DASH_join_DASH_right})
     THEN
     Try (BackThru `subtype-fpf-cap5`)
END
```